Buyers' Directory of The Rubber Trade
PAGE XLIII.

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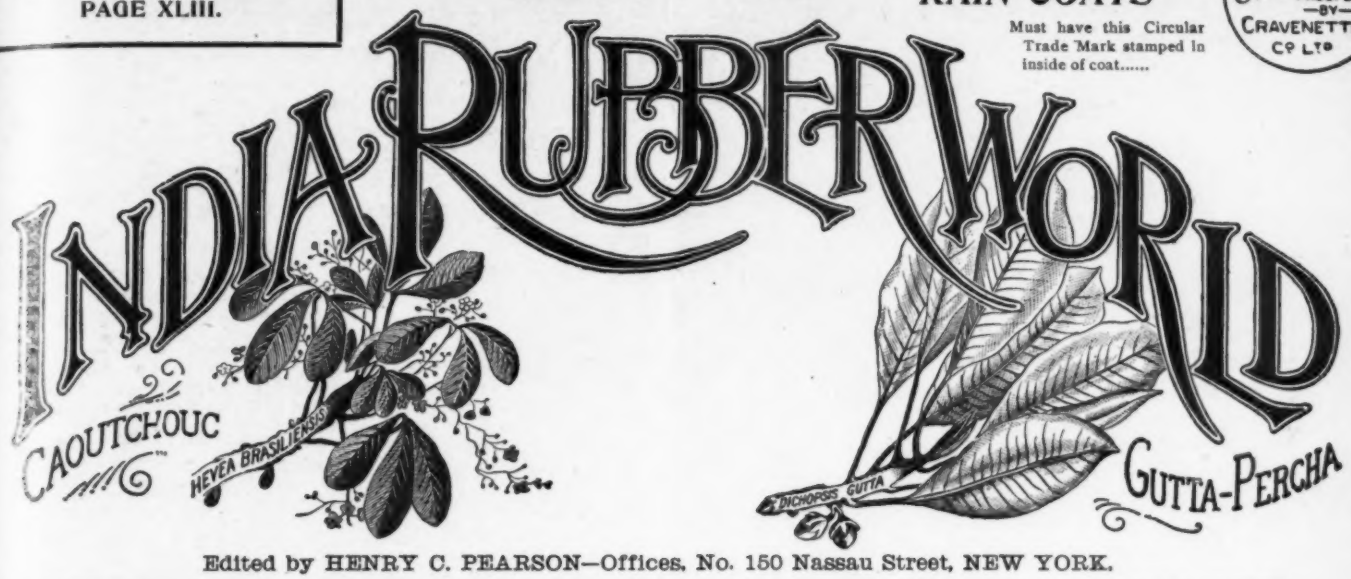

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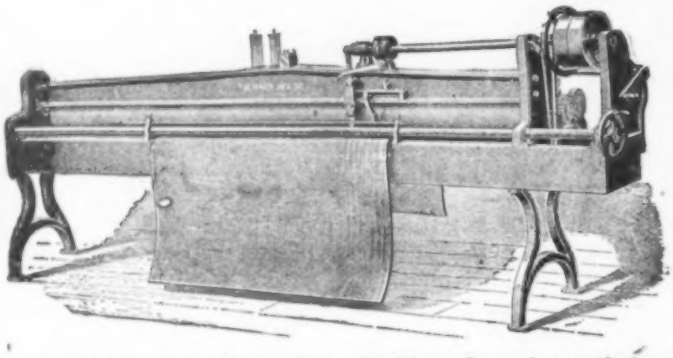

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UNWARRANTED ALARM IN GERMANY.

OUR friends of the *Gummi-Zeitung* (Dresden), in some remarks quoted in these pages last month, sought to prove the destructive effect of Trusts upon industry, by an analysis of a business report of a certain great American rubber manufacturing corporation. Without assuming to defend the management of this particular company, or of Trusts in general, we may venture to offer some considerations suggested by the article in our German contemporary.

In the first place, the failure of one so called trust to earn large dividends can hardly be held to condemn the policy of industrial consolidation. For it happens that exceptionally good dividends have been earned for some years by another so-called trust in the United States, understood to have been organized by the man who is credited with the formation of the company criticized by the *Gummi-Zeitung*, and on very similar principles. We refer to the American Chicle Co., engaged in making a confection called "chewing gum," from the product of the Mexican chicle tree. The capital of this company is represented by $3,000,000 in preferred and $6,000,000 in common shares. Since 1899, when the Chicle company began operations, dividends have been paid regularly on both issues, at the rate of 6 per cent. annually on the preferred shares and an average of more than 10 per cent. on the commoh. The total disbursement in less than four years has exceeded $3,000,000; the company reports a substantial surplus; and the shares are quoted high in the market. It is doubtful whether the Chicle company represents a total actual investment of $3,000,000; all its tangible property doubtless could be replaced for much less. The company, too, is as much a "trust" as any that exists in America, and yet the business carried on by it is more profitable to-day than when conducted formerly by the several constituent companies. May not this suggest to the *Gummi-Zeitung* that the failure of the United States Rubber Co. to show larger earnings may be due to some other reason than that it is composed of several formerly independent companies now brought under a central management?

There is another point. The rubber combination has existed for more than twelve years, during most of which it has paid satisfactory dividends. It has not of late undergone any organic change of base. It is just as much or as little a trust to-day as when its earnings were more liberal, and the latest business report makes a better showing, even by the *Gummi-Zeitung's* rules of analysis, than in the preceding year, indicating that its affairs do not grow worse the longer it remains a trust. If, this year, the former dividend rate should be restored would not this invalidate our contemporary's attack upon trusts?

The *Gummi-Zeitung* assumes to say what is the real capital of the rubber company, which is more than is known on this side of the Atlantic. Most of the constituent companies were formed a long time ago, with very little capital, and gradually expanded into large concerns. When they were consolidated their value was determined less

from the visible assets than by their earning capacity at the time. But the basis of the issue of securities was that the preferred shares should represent tangible assets and rank first for dividends; the common stock, issued "to represent the increased earning capacity by reason of the consolidation of the interests acquired," was to be entitled to any profits which might remain after paying the dividends guaranteed on the preference shares. A like rule has been followed in industrial consolidation generally, and it is a mistake to regard the nominal values of shares as the amount actually invested. If a dozen manufacturers combine and divide among themselves the shares which represent their respective interest in the consolidation, it matters little what the nominal value may be. The shares might be issued *sans designation de valeur*, as the French say; it comes to that when any are taken by the public, which is governed only by the prospective returns on the investment in fixing the market price of shares.

We trust that we shall not be understood as attempting to instruct our friends on the other side—or anybody else—since our thought has been only to help them to feel that perhaps the future of industry is not utterly dark. Whoever prefers to buy goods "not made by a trust" can still do so in the United States; at the same time, the "trusts" do not seem to be going out of business. Which shows that there is room for big and little concerns in the same market here, and we doubt not that the same is true of Germany and the rest of the world.

A NEW EMPLOYMENT FOR HOSE.

"THE man with the hoe" has come to be the pictured symbol of silent, hopeless defeat, but "the man with the hose," unless signs fail, is soon to be a triumphant exponent of victory. That is if the practical application of the plan of the superintendent of the County jail at Lafayette, Indiana, supports the theory. That worthy official, after a careful study of the strength and weakness of mobs, has decided that cold steel or bullets tend only to inflame, while cold water, applied with unction through a suitable make of fire hose, tends to placate gusty and unreasoning passion. He no doubt pondered long on the "Red Riot Hose" that scattered the fiery anarchists of Paterson, N. J. some months ago, and he has therefore, as a protection against mobs, pursuaded the commissioners of his county to erect a stand pipe between the front and rear entrances of his jail. With an ample supply of hose both entrances can be guarded, and, if necessary, the whole structure swept clean.

The force of the water will be such that it will easily knock a man down and it would be hardly possible for a body of men to force an entrance against it. Further than this, no jailor could have the slightest qualm of conscience in turning to such a means of defence. He might be too tender hearted or too timid to shoot, but not to "turn on the hose." He might shrink from blood, but not from water. Again, the leader of a mob who faces the sheriff's gun, and perhaps dies, is for the moment a hero and is fully conscious of the fact, but the same man tumbled in a wet, gasping, swearing heap will be an instant subject for mirth.

The suggestion is a practical one, and if the lynching fever continues may well be turned to by all jailors as a way out of a most difficult position. Further than this, if it were possible to add to the water some chemical that would cause a harmless but practically indelible stain to appear upon the person of the deluged one, what an after help it would be to the law in identifying mob leaders!

THE MANUFACTURE OF INVENTORS.

A MANUFACTURER writes to a New York newspaper, suggesting that the board of education offer prizes in manual training schools for the best inventions or improvements made by the boys in connection with their work, or their tools, or for any suggestions for improvements in connection with them. The reason for his interest is that for some time he has, in his own factory, put in operation a somewhat similar plan. His experience was as follows: During the first six months, there were only eleven suggestions for improvements. During the fourth six months, there were over seventy. This development, by the way, was from men who had shown before no inventive or suggestive genius at all. There is no question but what the suggestion has a practical value for manufacturers, depending somewhat, however, upon the branch in which they are engaged, and the ability of the manufacturer himself to discriminate between the creative and the imitative faculty—between invention, improvement, and suggestion. Take the rubber branch as a whole, for example. There have been few inventions, though thousands of patents have been issued. There have been countless hundreds of valuable suggestions, modifications, minor improvements, and imitations, many of which have been most profitable. In applying the scheme to the regular every day routine of factory work, it is easy to see where many a petty boss would capture the idea of some workman, and where one workman might claim credit for another's improvement; and it has even been whispered that the heads of concerns themselves have fathered the child of the employé's brain. If however, the plan had general merit, these minor difficulties would soon be swept out of sight. It would be most interesting to see the matter tried in some large mechanical rubber factory, for example.

"THE RUBBER INDUSTRY MAY BE REVOLUTIONIZED" is a stock headline in certain newpaper offices, which lately has been displayed over accounts of rubber obtained from the so-called "greasewood" of Colorado. The story of a certain marvelous "rubber shrub" in Mexico is being repeated, the idea being that the gum can be collected so cheaply that it will find a wide place in the rubber industry, even if not equal to the best Caoutchouc. But it seems reasonable to suppose that the first cost of a ton of this stuff, gained at the rate of a spoonful for each plant destroyed, would be higher than that of real rubber, of which several pounds may be collected from the same tree year after year. And if the material is less valuable, as well as more expensive, it is not clear why manufacturers should be interested in it.

AFTER THE HARVESTING OF A POTATO CROP there are no more potatoes to be had from the same field without first planting a new crop. The same condition applies to the so-called "root rubber," of which so much has come out of Africa. It is true that the roots of the rubber plants in no way resemble potatoes in shape, but otherwise the comparison holds good. As an authority quoted on another page says: "The surface, after the natives have collected their rubber, resembles an orchard or meadow which has been upturned by a grub-seek-

ing hog." It is not probable that the natives will do any replanting, since so many years would be required for a new growth of this peculiar rubber; hence the more of the product marketed, the sooner will the supply become extinct.

THE DETAILS OF THE NEW LOAN made by the great rubber producing state of Amazonas (Brazil), given on another page, are not a flattering commentary on the management of public finances at Manáos. The export duties on rubber alone, which alone produce over $3,000,000 (gold) in a year, are a certain source of revenue of very long standing and one that grows with the expansion of the trade. The public expenditure is confined mainly to the city of Manáos, with a population of 40,000, which is the political and commercial capital of the state. The support of this highly concentrated community draws upon all the resources of Amazonas, a state as large as Great Britain, France, Germany, Spain, Belgium, and the Netherlands combined. Yet the new state loan of $7,300,000, in 5 per cent. thirty year gold bonds, to supersede all prior obligations and to constitute the total public debt, had to be placed at a discount of 15 per cent. Evidently the possession of the cream of the trade in "Pará" rubber tends neither to the development of wealth among the people, nor to the prosperity of the public treasury.

A REPORT ON RUBBER PLANTING in Mexico and Central America, by Mr. Cook, an expert of the United States department of agriculture, in charge of investigations in tropical agriculture, is now understood to be in the hands of the government printer. We do not consider the brief summary of this report which has found its way into the newspapers to be a sufficient basis for criticism, and shall reserve fuller consideration until the complete document is in hand. One sentence in the newspaper summary, however, appears to be worthy of immediate quotation, namely:

> Should the raising of rubber trees on a large scale prove a failure, the number of persons affected would be very great.

Precisely. And if the bottom should drop out of the sea, the leakage would be even greater.

A CERTAIN LEARNED JUDGE in Milwaukee has ruled that automobiles must be equipped with bells, as "the horn does not make noise enough." It is to be hoped that his opinion will not prevail, for, in the first place, the sound of the horn at once suggests an automobile, while a bell might mean a scissors grinder, an auction, or a dinner, any of which may be dodged at one's leisure. Further than this, the sound of the horn carries quite as far as the bell, the learned judge to the contrary notwithstanding. And then, the business end of the horn is of rubber, which to some people, at least, is a sufficient recommendation.

RUBBER PROTECTION IN NIGERIA.

THE reckless exhaustion of rubber in the British colonies of of Lagos and Gold Coast, in West Africa, suggested to the authorities of Southern Nigeria, in 1900, to form a forestry department, the first work of which was to deal with the preservation of the extensive rubber forests in the Benin territories. Regulations were drawn up for enforcement by the forestry inspector, restricting the extraction of rubber to certain seasons and certain methods; besides which the natives were instructed, through their head men, in the importance of preserving the rubber trees. Certain forest reserves have been declared, in which the gathering of rubber is prohibited between February 15 to May 31 in each year, and its exportation between March 1 and May 31, and it appears that this rule—certainly with regard to exportation—is capable of being enforced.

EXHAUSTION OF "HEVEA" RUBBER.*

BY PAUL CIBOT.

IS the natural caoutchouc which we obtain from the *Hevea* liable to fail some day? Such is the question which presents itself as a result of the every day constantly increasing use of this precious substance.

From having traveled through the various regions, we well know where the *Hevea* grows, and we are acquainted with the great extent of the Amazonian basin; but the *gomeros* (rubber gatherers) are also each day penetrating further into the depths of the forests which line the streams of this little known region, and after a few years' working they must go still further in search of other virgin *gomales* (rubber producing trees).

The objection may be made that the *gomales* of the lower Amazon have been worked for the last thirty years, but we reply that they are no longer large producers, and that those of the Tocantins are exhausted. From our observations extending over a period of seven years, we know that the trees may be methodically used four years in succession, but after such a period they require time for recuperation.

As a result of a methodical harvesting the *gomales* can be periodically worked, but there is no doubt whatever that if the exportation of caoutchouc from Pará during a period of thirty years had been annually 25,000 tons, as in 1899, the Amazonian forests would have been penetrated into much further than they have to-day.

By admitting an output of 500 kilograms of caoutchouc per year as a product from an *estrada* comprising 150 trees, scattered over a space of 15 hectares [=37 acres], the 25,000 tons of caoutchouc exported from Pará annually, coming from the Amazonian basin, will represent the product from 7500 square kilometers [=about 2900 square miles] of *gomales*. While the Amazonian basin measures fully 5,600,000 kilometers square, we must not count on more than a twentieth part of this territory as containing the *Heveas*. The latter are not found growing close together; they are scattered throughout the depths of the forest which borders the water courses for a distance of several kilometers, besides being quite variable in frequency. The remainder of the forests do not contain a single *Hevea*. There are also immense *prairies* where only a hardy grass grows and a few useless shrubs; and finally, there are the swamps, the water courses, and the mountainous regions.

Consequently, we can only calculate on about 280,000 square kilometers [=108,118 square miles] of forest area capable of supporting the growth of the *Heveas*. We must allow for a reduction of half of this figure for the *gomales* territory known at the present time; consequently there remains 140,000 [=54,059 square miles] square kilometers of virginal *gomales*.

It is quite certain that exhaustion is not imminent, but in spite of all the uncertainty which such calculations possess, we are brought face to face with the fact that in twenty years—perhaps ten—all the streams of this immense Amazonian basin will have been explored. By that time, the caoutchouc *lianes* of Africa also having been exhausted, and the natural *gomales* producing less and less, the remunerative period for the *Hevea* plantations, which are being formed to-day, will commence. The rubber supply of the future will be secured from these plantations.

* From *Journal d'Agriculture Tropicale* (Paris.)

LITERATURE OF INDIA-RUBBER.

KOLONIAL-WIRTSCHAFTLICHES KOMITEE. KUNENE-SAMBESI-EXpedition. H. Baum. Berlin: 1903. [Cloth. 8vo. Pp. xi + 393 + map, 13 plates, and 108 illustrations in the text. Price, 20 marks.]

THE West African river Kunene, flowing into the Atlantic at 17° 30′ S. latitude, marks for some distance the boundary between German Southwest Africa, on the south, and the Portuguese colony of Angola, on the north. The boundary line projects beyond the Kunene, nearly half across the continent to the Zambesi. North of this boundary, from the Atlantic to the Zambesi, and within the limits of Angola, lies the vast concession of the Companhia do Mossamedes, with 25,000,000 francs capital, out of whose plans grew the suggestion of a railway from Port Alexandre, on the seacoast, to the Transvaal, and it was to report upon the little known country along the proposed route that an expedition was planned, in which the semi official German Colonial Economic Committee joined. Herr Baum, the representative of this committee, and a botanist of note, has reported in this volume a résume of the tour to the Zambesi and return, and in detail on the resources of the country, while assistance has been rendered by members of the staff of the royal botanic museum at Berlin and by other experts in reporting on the collections made on the expedition. Professor Dr. Warburg contributes a summary of the botanical results.' There are likewise expert reports on the zoological collections, and so on.

The interest of the work for the rubber branch lies in the very complete accounts given of "root rubber" (*wurzelkautschuk*), which abounds through a great part of the region traversed, practically no other rubber being found there. Descriptions are given of the leading species yielding this rubber, with views of the plants, and of all the steps in the native process of preparing rubber from them. The book is in fact the most important contribution yet made to the world's knowledge of this singular class of plants, from which so much rubber has been obtained underground, without its source being understood until recently. The region in which this work was studied particularly was in the sandy plains of eastern Angola, among the rivers flowing into the Zambesi.

The book is handsomely printed and richly illustrated, in the style of the reports published by the same committee on India-rubber expeditions to West Africa and Central and South America, mentioned already in these pages.

IN CURRENT PERIODICALS.

LA Culture des Arbres a Caoutchouc. By Monsieur Dinet. [Resume of a report to the fifth planting congress at Malang, Java, in October, 1902]=*Revue des Cultures Coloniales*, Paris. XII-121, 122 (March 20, April 5, 1903). Pp. 179-182; 202-206.

Dissertation Critique sur la Multiplication des *Isonanda gutta* (*Palaquium*). By Charles Rivière.=*Revue des Cultures Coloniales*, Paris. XII-118-121 (February 5, 20, March 5, 20, 1903) Pp. 65-71; 97-106; 134-139; 170-175.

Le *Funtumia elastica* on Caoutchouctier de Lagos. By Emile De Wildman.=*Industrie et Commerce du Caoutchouc*, Brussels. I-4 (April, 1903.) Pp. 80-81.

Les Nouvelles Presses á Vulcaniser. By René Bobet.=*Industrie et Commerce du Caoutchouc*, Brussels. I-3, 4, 5, 6 (March, April, May, June, 1903). Pp. 60-61; 81-83; 102-103; 125-126.

Sur les Plantes Utiles du Sud de L'Angola. [Relates to Caoutchouc plants.]=*Revue des Cultures Coloniales*, Paris. XII-127 (June 20, 1903.) Pp. 366-368.

Les Plantations *d'Hevea* daus les Établissements des Détroits. (The *Hevea* plantations in the Straits Settlements.) By Henry Jumelle. [Including a letter from E. Mathieu, Singapore; discussing results obtained and in prospect.]=*Revue des Cultures Coloniales*, Paris. XIII-128 (July 5, 1903.) Pp. 6-14.

NEW TRADE PUBLICATIONS.

THE PEERLESS RUBBER MANUFACTURING CO. (New York) devote their Catalogue No. 58 to engineers' specialties, including their "Rainbow" sheet packing—of which it is stated that 2000 tons were made and sold in 1902—"Eclipse" gaskets, various special piston and spiral packings, tubing and hose for pneumatic tools, air brake and steam hose, belting, and so on. Prices are given, together with descriptive points regarding many of the specialties noted. The catalogue is helpfully illustrated. A copy will be sent to any one interested who may apply for it. [3¼″ × 6½″. 44 pages.]

THE COMBINATION RUBBER AND BELTING CO. (Bloomfield, New Jersey) have brought out a new illustrated priced catalogue of Mechanical Rubber Goods, embracing all the standard lines usual in such catalogues, and many specialties in addition. It is particularly full in details relating to belting and hose. Special makes of hose are offered for various purposes—for use in maple sugar making, sandblasts, spraying vineyards, and so on. Several pages are devoted to rubber rolls, in which line the Bloomfield factory was a pioneer. The value of the catalogue is enhanced by the insertion of blank pages for memoranda. [5⅛″ × 7¾″. 157 pages.]

BOSTON BELTING CO. (Boston, Massachusetts) issue an illustrated catalogue of Rubber Mats, Matting, and Treads, with particular attention given to the advantages of perforated rubber mats, in connection with which a number of attractive designs are given. [5¼″ × 8¼″. 24 pages.]

THE GOODYEAR TIRE AND RUBBER CO. (Akron, Ohio) issue their Catalogue C 41, devoted to Carriage tires (solid, cushion, and pneumatic), Tire Machines, and Supplies. It includes a manual for the applying of vehicle tires, the various operations being indicated by good illustrations. It is a handsome publication, concise, and easy of reference. [6″×9″. 32 pages].

PIRELLI & CO. (Milan, Italy), the variety and completeness of whose trade publications have been noted before in these columns, have issued a brochure entitled "Considerations on the Employment of Insulated Wires in Aërial Lines on Insulators," which forms a helpful guide to those whose business it is to draw up specifications for work of the class referred to. It is not written in the form of advertising matter, the only reference to the name Pirelli appearing on the title page, and is printed on good paper in excellent taste. [8¼″ × 12″. 18 pages.]——We have received from them also a sheet mounted on rollers, giving views of their extensive India-rubber and cable factories.

BUFFALO DENTAL MANUFACTURING CO. (Buffalo, New York) issue their priced catalogue "C" of Vulcanizers and Their Appurtenances, for the Dental Laboratory, illustrating a wide variety of such products, and indicating that the dental profession is by no means confined to a narrow field in the application of rubber to their work. This company, by the way, have been engaged for 38 years in the manufacture of dental vulcanizers, having been the first to enter the field. [6″×9″. 24 pages.]

ALSO RECEIVED.

A. G. SPALDING & BROTHERS, New York=Spalding's Spring and Summer Sports. [Catalogue] No 303. Season 1903. 96 pages.

The M. Lindsay Rubber Co., New York=Agnota Rubber Gloves. 8 pages.

The Canton Rubber Co., Canton, Ohio.=The Canton Seamless Hot Water Bottle. 4 pages.

The Stodder Tire Co., Nos. 90-92 West Broadway, New York.=Tire Talks [relating to Stodder puncture proof single tube and "clincher" tires]. 8 pages.

THE INDIA-RUBBER TRADE IN GREAT BRITAIN.

By Our Regular Correspondent.

IN the course of a retrospect of the rubber industry, delivered at the recent Congress of Applied Chemistry, at Berlin, Dr. C. O. Weber indulged in a tirade against the use of such terms as "Caoutchouc," "India-rubber" and "Gummi." They were designated as childish and absurd, and it was suggested by the author that the term "polyprene,' expressive of the chemical constitution of the body, should be adopted instead. Now it is evident that if the old terms which now convey definite impressions to the sellers as well as to the units of the vast army of buyers are to suffer substitution by a chemical word, it will be necessary to educate the public in chemistry, otherwise the change would merely mean the substitution of one parrot cry by another. At the present time the vast majority of those concerned know little and care less as to how many ethylene bonds are contained in each rubber hydrocarbon molecule, and any attempt to effect a reform in nomenclature—a reform which, from a scientific point of view is, I admit, eminently desirable—would probably be resented as an unwarrantable tax. I think before pushing the matter to extremes it would be desirable to bring forward some conclusive evidence that the progress of the chemical side of the industry has indeed been hampered by a popular but inexpressive nomenclature. I do not feel sure that any paralysis with which the industry has been seized is traceable to this cause, and certainly I should expect those few who have at any time paid attention to the chemistry of rubber to have made themselves fully acquainted with the fact that from a chemical point of view the use of the terms gum in America and gummi, gomme, gomma, etc., on the Continent was quite erroneous and misleading. Seeing that in applied science the market is the master and the chemist the servant, I do not look forward with any great degree of confidence to the realization of Dr. Weber's aspirations, however much I may be inclined to sympathize with the spirit which prompted their expression. Those who are opposed to any change will doubtless point to many words which are mere concatenations of letters but which undeniably answer in every respect the purposes for which they are requisitioned.

NOMENCLATURE.

THE recent case in which an American government analyst found sulphur in crude rubber is not without importance. In this particular case perhaps a little free sulphur has got into the rubber in the coagulation process, and it would of course be absurd to classify the rubber as "manufactured." But this question apart, it is noticeable that analytical researches carried on with precision have of late shown that plenty of substances contain foreign bodies in minute quantities whose presence was quite unexpected. Where these discoveries lead to accusations of negligence or fraud it will be recognized that the cases assume serious aspects. With regard to sulphur in rubber, if the element is found in the free condition, it must have been added, but if sulphur is found as a result of an oxidation test there is no evidence of its addition because sulphur is a normal constituent of plants and is probably to be found in varying amounts in the leaves and other parts of the rubber trees as a constituent of the protoplasm. The wide occurrence of arsenic in nature was not suspected years ago, and to-day when it has been found to be a constituent of yolk of egg and other bodies too numerous to mention, to prove poisoning by arsenic is anything but the easy task it was supposed to be only a few years ago. Again there have been numerous prosecutions for adding salicylic acid to jam, but this acid has recently been found to occur as a normal constituent of strawberries. I see that Dr. Weber has recently announced that he has discovered copper in raw rubber and the details of his analyses will undoubtedly prove of interest. If such proves to be more universal than particular the point will prove of great assistance to counsel for cloth manufacturers in disputes as to the premature decay of waterproofed cloth. It has long been known that copper pigments are found in the feathers of certain species of birds but the metal is certainly not on the somewhat limited list of elements which enter into the composition of plants. As chemical research will undoubtedly prove a more general distribution of the elements than has been supposed to be the case it will be important to have quantitative results so as to form standards of purity to satisfy the demands of law and commerce. The arsenic in rubber goods question died out with the same rapidity which characterized its appearance as it was shown that the amount present was quite negligible from a hygienic standpoint. It will be incumbent now on the discoverer of copper in rubber to give figures, which I fully imagine will prove quite reassuring to the trade.

TRIUMPHS OF ANALYSIS.

IT is noticeable in recent consular returns that the Guianas seem to be returning to their old position as large producers of Balata, a position from which they were ousted a few years ago by Venezuela. Of course business generally in the latter country has been upset during the last twelve months, and the more stable political conditions existing in the Guianas put those who are engaged in exploiting their resources in a more favorable condition. I notice that the "Statesman's Year Book" refers to the exports of Balata from Venezuela as Gutta-percha, which is of course an inaccuracy, though one which is not by any means confined to this important publication. It has been suggested that some details with regard to the use of Balata in Great Britain would be of interest, but owing to the conservatism shown by those firms, chiefly in the belting trade, who use the bulk of the imports, it is not easy for an outsider to write accurately on the subject.

BALATA.

UNDER this headline an interesting paragraph appears in the July issue of THE INDIA RUBBER WORLD. It is concerned with the intention or desire of the American Institute of Electrical Engineers to collect particular items of trade information for circulation among the members. From what I understand as to the fraternity existing among American manufacturers, there is nothing surprising in this departure of the American Institute. It is not quite clear to me whether the publication of the notice in THE INDIA RUBBER WORLD is tantamount to an invitation to foreign firms to join in this gratuitous dissemination of useful knowledge, but if this is so I am much afraid that from England, at all events, the response will be very meager, that is, from firms actually engaged in manufacture. Consultants might be willing to give publicity to facts in their possession, but our manufacturers of electric cables have the reputation of being exceedingly reticent as to the details of their several businesses. And one can hardly blame them for this attitude, since it is recognized that business is carried on

DATA WANTED ON INSULATION.

for purely personal interests, and not by any means as an illustration of Benthamite ideals. In saying that collaboration on this side will only be obtained with difficulty, I do not say that it would not be attended with advantage. It was suggested to me recently that as there are now recognized standards of purity for copper and other materials, there might be a regular series of rubber mixings of which the electrical constants were known and which could always be relied upon to give similar results. At present the various cable companies have their own formulas which they make up themselves or get made up by rubber works to their specification. Perhaps a general comparing of notes might result in the recognition of certain rubber mixings as best suited to the purpose for which they are intended, and no doubt the results of the American enquiry will be studied with interest by those who are not disposed themselves to contribute their quota of information.

THE WATERPROOF TRADE.

AT the moment the predicted improvement in the macintosh trade has not made itself evident, and reports from firms who are specially laid out for this branch continue to be of a gloomy character. The macintosh of course is not extinct; in fact it is almost as much in evidence as ever among those classes for whom it was primarily introduced—that is, among sportsmen and agriculturists and others whose occupations take them out in all weathers. It is the town dweller, whose custom led to so great an expansion of the trade, who is the defaulter responsible for the present stagnation. The tar distillers have been hit pretty severely, solvent naphtha having recently been bought as low as 5 pence per gallon instead of three or four times that figure as in former times. Despite the present unfavorable position of the trade, there are no actual failures to record because the firms concerned have either gone into the rainproof business, or else where the business is a general one they have devoted their energies to other goods with the idea of minimizing the loss and of tiding over until better times, though opinions differ a good deal as to the probability of the macintosh ever again becoming an article of large popular demand.

LEYLAND RUBBER REPORT.

THE annual report of the Leyland and Birmingham Rubber Co., Limited, is satisfactory reading, the dividend being 8¼ per cent. against 7½ and 6¼ per cent. respectively for the two preceding years. Being situated in a country district and with ample land of their own for extensions, the company are in a more favorable position for extensions than are a good many of its competitors whose premises are in confined town areas. When referring to advantages which the company enjoy, an important factor in the person of Mr. J. E. Baxter must not be overlooked, his long association with the trade having been marked by uniformity in success.

MOTOR TIRE NOTES.

I UNDERSTAND that the flexible wheel—that is, a wheel of which the rigid spokes are replaced by steel springs—is again receiving attention in France. The idea is not a new one, at least as far as cycles are concerned, but it never attained any attention except that accorded to a freak. The object of course is to save the expense of pneumatic tires, though looking at the weight of metal necessitated in such a complex structure it is clear that the saving is not in first cost but in renewals always supposing that the flexible wheel comparts itself properly and does not need constant attention.——Mr. E. H. Seddon, who I regret to say has recently had a serious motor accident, has brought out a new tire which is being a good deal talked about, but as it is as yet only in the trial stage I shall reserve details for a future occasion.——It is somewhat doubtful whether much good will be effected by the circular issued by the Dunlop company explanatory of the so-called defects shown by their tire in the Gordon Bennett cup race. At the same time it is important that it should be known that the failure was due to the use of a wrong make of tire—that is, a too shallow one—and not to any inherent defect in the tire itself. It is now generally recognized that the increased speeds demand a deeper tire, and these are now being fitted by motorists who have previously used the narrower ones.——In advertisements the Collyer Tyre Co. insinuate that the failure of the British to pull off the race might be attributed wholly or in part to the fact that the Collyer tire was not used, a statement that certainly cannot be refuted, though at the same time one of not much intrinsic value.——I do not gather that those of our rubber manufacturers who have hitherto held aloof from the motor tire business are particularly eager to enter into the arena and this chiefly owing to the risks that have to be faced. If a tire turns out unsatisfactory the fact seems to get plenty of gratuitous advertisement with consequence of an exceedingly discouraging nature. As this is not the case with other classes of rubber goods, they prefer to limit their efforts to goods where occasional failure is not so disastrous.

THE ANCHOR CABLE CO.

WITH regard to this company I was from the outset of its formation, about three years ago, rather sceptical of its success and from a variety of reasons. Before going into a business nowadays it is advisable to pay due regard to what reasonable prospects of success exist in face of existing competition; and all the more if the business is one that requires the highest technical skill. The sale of the works at Leigh, Lancashire, to the Callender company, though at a loss to the shareholders, is as good a thing as could be done under the circumstances I should think. I understand that the purchasers intend to carry on the works as a Northern branch of their Thames works. The great river has been considered in the past as an almost indispensable adjunct to the cable business, but opinions seem to be changing somewhat. I hear that one of the large cable companies on the river is contemplating an entire move into the midlands owing to vexatious restrictions imposed by the London County Council, though it may turn out that this is only a threat.

MEXICAN GUM.

THE interesting travels in Mexico recently described in this Journal bring to my mind the subject of a substance called "Mexican Gum." I obtained a sample of it some years ago from a rubber works but I am not aware that it has ever been put to any practical application. It seems to consist chiefly of a resin with possibly a little low class rubber, woody fiber, sand, etc. I cannot imagine myself that the stuff can have any value, but as it has been at one time at any rate put before the rubber trade it would be interesting to hear if anything is known of its use in America.

AN EXPLANATION.

AS the facts of the case seem to be imperfectly understood I may explain that the arrangement made by Mr. E. J. Byrne with the Dunlop Rubber Co. when the latter absorbed the Dunlop Pneumatic Tyre Co., has been terminated. The agreement was that Mr. Byrne should act as expert adviser for twenty years at the handsome salary of £2,500 per annum, he not to be interested otherwise in the rubber trade. The arrangement was terminated some time ago for a lump sum agreed upon between the parties.

THE St. Petersburg (Russia) *Official Messenger* reports the discovery of a rich deposit of asbestos in the Irkutsk district—on the line of the Trans-Siberian railway, in the Balkan mountain region—and the formation of a company to exploit it. Preliminary tests are said to show that at a depth of one foot the asbestos is equal in quality to the Canadian product.

THE OBITUARY RECORD.

LEWIS LEGRAND HYATT, who quietly passed from life at his residence in London, on August 1, probably had been interested in the India rubber industry longer than any one now living. He was born at Wilton, Connecticut, on February 20, 1820. At the age of 25, being already married, he became connected with Ford & Co., at New Brunswick, New Jersey, then just established for making rubber shoes under the Goodyear vulcanization patent of 1844. This firm was composed of John Ross Ford and James Bishop, with Christopher Meyer superintendent. In 1852 Mr. Hyatt and Mr. Meyer patented a machine for making in one piece the heel and sole of a rubber shoe, which proved to be an important invention, and is still in use.

LEWIS L. HYATT.

In 1855 the first rubber shoe factory in Europe was established near Paris, by the American firm of Hutchinson, Henderson & Co., who in France adopted the name Compagnie Nationale du Caoutchouc, and Mr. Hyatt went with them as superintendent. At the same time the firm of Norris & Co., also Americans, were starting at Edinburgh what became, in 1857, the North British Rubber Co., Limited, and in 1859 Mr. Hyatt became superintendent of their rubber shoe department, filling the place for ten years, during which time he also superintended the organization of a waterproof clothing branch. Here Mr. Hyatt was interested with his earliest business associates, for Messrs. Meyer, Ford, and Bishop were among the founders of the North British company. On leaving Edinburgh Mr. Hyatt received the following letter:

MR. L. L. HYATT, Edinburgh—

Dear Sir: On the eve of your departure from Edinburgh, and the severance of your relations with this Company, it affords me great pleasure to hand you the following resolution which was unanimously passed to-day at a full meeting of the board of directors:

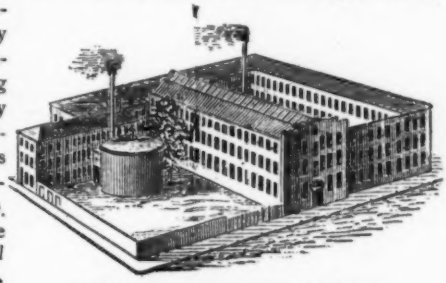
Extract from minutes of Directors of the North British Rubber Co., Limited, held in the Company's registered office on the 6th day of October, 1869.

"Mr. Norris reported that Mr. Hyatt was about to leave the Company's service, to return home. The Directors unanimously resolved to record their high appreciation of Mr. Hyatt's services during the ten years he has been engaged with the Company, he having during the whole period acted with the greatest zeal and energy to forward its interests. The Directors further requested Mr. Norris to communicate this resolution to Mr. Hyatt and express their best wishes for his future happiness and prosperity." Yours truly,

NORTH BRITISH RUBBER COMPANY, LIMITED.
HENRY LEE NORRIS, Manager.

Edinburgh, October 6, 1869.

Mr. Hyatt had purchased an interest in the company on going to Edinburgh, and on leaving sold his shares at 350. Returning the same year to the United States, Mr. Hyatt joined in forming the Hyatt Rubber Co., at New Brunswick, in which the shares were held equally by himself and Messrs. Ford and Meyer. Mr. Hyatt was president, Mr. Meyer treasurer, and James Bishop Ford (son of John R. Ford) secretary. This became later the New Jersey Rubber Shoe Co., which was merged with the United States Rubber Co. in 1892. The premises occupied were those originally used by Horace H. Day in his rubber work at New Brunswick; it was here that Christopher Meyer took his first lessons in rubber. In the view given on this page, the street in front is Richmond; on the left is Nelson, on the right Dennis, and in the rear (beyond some buildings not shown in the picture) Hiram street. The corner portion adjoining the chimney to the right was the original building used by Day, the remainder having been added by successive rubber concerns before the Hyatt Rubber Co. came in. The cylindrical structure in the yard enclosed the vulcanizers.



DAY'S NEW BRUNSWICK FACTORY.
Afterwards used by Hyatt Rubber Co. and New Jersey Rubber Co.

The plant was burned in August, 1876, and the New Jersey Rubber Shoe Co. (as it then was) rebuilt on another site, in Little Burnett street, which building is still in use.

MR. HYATT'S RESIDENCE AT MILLTOWN, N. J.
He lived in the house to the right (still standing) before first going to Europe.

Soon after the fire Mr. Hyatt retired from business and spent some years in travel in Europe. He next became interested in the celluloid manufacture, in Paris, which in 1886 he transferred to the British Xylonite Co., Limited, of London, an important enterprise, with which he remained connected until his death. In some reminiscences contributed by Mr. Hyatt to THE INDIA RUBBER WORLD (January 1,,1901—page 103) he wrote: "In 1894 I celebrated my golden wedding—my married life having been almost coincident with my business career, and my wife having proved an excellent partner in

both, and the most cheery of counsellors and most faithful of help-meets in the vicissitudes inseparable from a life so busy and full of varied risks and interests. She shares with me our well-earned repose in our cosy home in Stroud green." Mr. Hyatt suddenly became very feeble, a few weeks before his death, which resulted from exhaustion due to old age. At his bedside was his son, Edgar S. Hyatt, of Plainfield, New Jersey, who had lately arrived on a visit.

JAMES A. WILSON.

JAMES A. WILSON, proprietor of the Housatonic Rubber Co., at Bridgeport, Connecticut, died at his home in that city on August 6, after a brief illness. He was born in New York city, September 13, 1837, and in time became a resident of Newtown, Conn., where he practised law, besides representing the town in the state legislature several terms. Fifteen years ago he removed to Bridgeport, where he became interested in the rubber reclaiming industry, carried on by the company above named. Mr. Wilson served in the Civil war in the Fifth regiment of Connecticut volunteers, and at the time of his death was a member of the Grand Army of the Republic, of the Fairfield county bar, and of the Algonquin Club (Bridgeport), and was a thirty-third degree Mason. For many years he was high priest of Pyramid temple, Nobles of the Mystic Shrine. Mr. Wilson was an exceedingly genial man, and very popular both in business and social circles. The interment was at Newtown, on August 8. Mr. Wilson is survived by his widow and a daughter and three sons, all the sons having at some time been engaged in Bridgeport journalism. One of them, Justin Wilson, will be actively connected with the Housatonic Rubber Co., which will continue in business.

GEORGE JAGER.

GEORGE JAGER, of the Liverpool Rubber Co., Limited (Liverpool, England), passed away at his home on July 9, the interment taking place at Lindall Claughton. Mr. Jager was the surviving partner in the firm of George Jager & Sons, sugar refiners of Liverpool and Leith. Some fifty years ago his father came from Hanover, Germany, started a refinery in Liverpool, and established a very large and successful business. His son, whose death we announce, was born in Liverpool and educated at the Liverpool Institute. He took hold of the management of the sugar business about thirty years ago, and until the establishment of the foreign sugar bounties, carried it on with conspicuous ability. He joined the board of the Liverpool Rubber Co., Limited, about ten years ago, and was a most attentive and useful director, particularly good at grasping new suggestions and lending them his energetic support. He was a man of great decision of character, most energetic, and in private life one of the most genial of friends. He was a member of the Liverpool Reform Club, a moderate Liberal in politics, and much interested in athletic sports, being at one time captain of the Wallassey Golf Club. He leaves three sons, his eldest, Harold, a barrister at law, and Bertram and Arthur carrying on the business of George Jager & Sons, sugar refiners. Mr. Jager visited the United States in the latter part of 1895, with Manager Tippet, in connection with the purchase of rubber machinery for the Liverpool company.

THE ORIGINAL GOODRICH FACTORY.

YEARS ago, when Dr. Benjamin F. Goodrich was just starting in the rubber business, he struck up a friendship with that veteran rubber man, Mr. Wheeler Cable. In the course of the correspondence that followed, the Doctor referred to the little factory that he had established in Akron, Ohio, and enclosed in one of his letters a photograph of it—probably the only one ever taken. Later this building was raised two stories, other buildings were erected near it, and the plant so changed that the identity of the original factory was entirely lost. Then later came the tremendous expansion of the business, the tearing down of the old buildings, and the construction of the present aggregation of huge brick structures.

ORIGINAL FACTORY OF THE B. F. GOODRICH CO.

Occasionally during this growth some of the older members of the company regretted that no picture of the Goodrich beginning was in existence. A few months ago, however, Mr. William J. Cable came across an old photograph, which he fancied might interest the Goodrich company. He sent it to Akron, and it was recognized as a picture of the original plant. The Goodrich company are to be congratulated on securing this most interesting reminder of the past. It is now thirty-three years since Dr. Goodrich went out from the East and established the rubber industry at Akron.

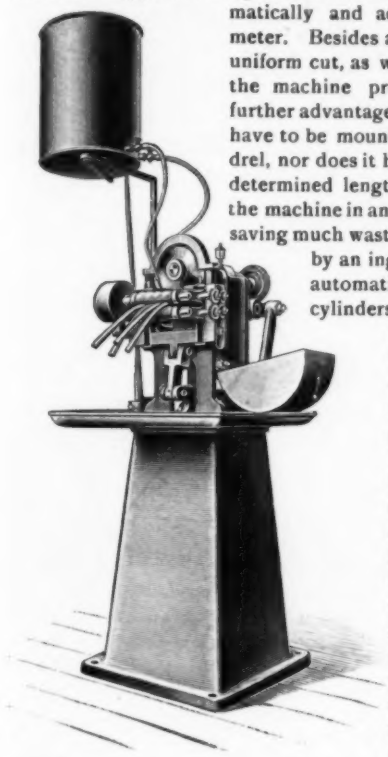
A PIONEER IN AFRICAN RUBBER.

SIR JOHN KIRK, G.C.M.G., K.C.B., F.R.S., of England, is spoken of by the Zanzibar *Gazette* as having "practically created the rubber trade of the east coast of Africa." His experience with that region began in connection with the first expedition of Dr. Livingstone, 45 years ago. Later he was British consul general at Zanzibar, and recently he has served on the government commission for the construction of the Uganda railway, the completed line of which he has been inspecting. Sir John is best known, however, as a botanist and naturalist, and an important rubber species, *Landolphia Kirkii*, is called after him.

RUBBER FACTORY APPLIANCES.

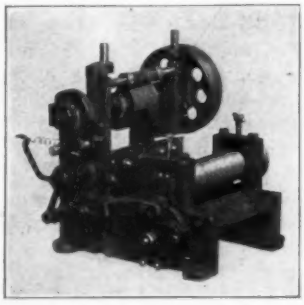
AUTOMATIC DISC AND RING CUTTER.

THE machine shown in the illustration herewith is designed to cut, in ten hours, 80,000 bottle discs, rings for stoppers, and other similar rings of rubber, while formerly a woman was able to cut by hand, within the same time, only 30,000 to 40,000 bottle discs, and still fewer rings. This machine cuts simultaneously four pieces, which are conveyed to the circular knife on a support with up and down motion. It works automatically and accurately to $\frac{1}{10}$ millimeter. Besides an exact and perfectly uniform cut, as well as great capacity, the machine presents the following further advantages: The stock does not have to be mounted on a core or mandrel, nor does it have to be cut in short determined lengths, but can be fed to the machine in any desired length, thus saving much waste. The feed is effected by an ingeniously constructed automatic mechanism of four cylinders, two of which are rubber covered. For the various diameters of stock, readily interchangeable metal guides are employed. The thicknesses to be cut are easily and accurately adjusted on a scale provided for that purpose on the machine. In order to avoid the constant refilling of the upper basin by a workman, and also dry cutting, a pump is attached to the machine which pumps the water used for cutting back into the upper basin. The manipulation of the machines being the most simple imaginable, a boy can easily attend to three or four of them. [Max Müller, Hannover-Hainholz, Germany.]



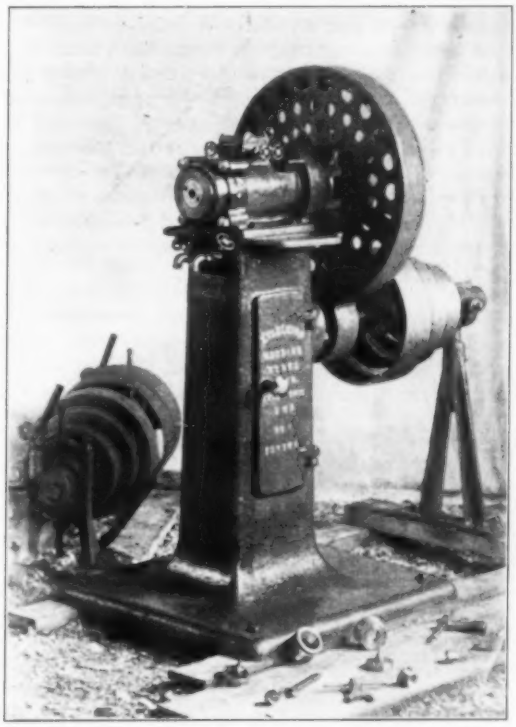
AUTOMATIC TUBING CUTTER.

IN the early days of the rubber manufacture, when tubing was made by hand and usually in 6 foot lengths, the cutting of the ends, or into special lengths, was a task that required a sharp knife, some muscle, considerable skill, and much time. After a time a variety of simple cutters were evolved, that shown in the illustration being the latest type. This machine is simple, compact, and rapid. The tubes, ten in number, are laid in the grooves shown in the forefront, and the machine set for the length of cut desired. With the application of the power the tubes run through with remarkable speed and drop in bunches on the other side. The cut is clear and clean and all of the tubes are exactly alike as to length. One of these machines will do the work of ten hand cutters, and not work up to speed at that. [Excelsior Machine Works, Akron, Ohio.]



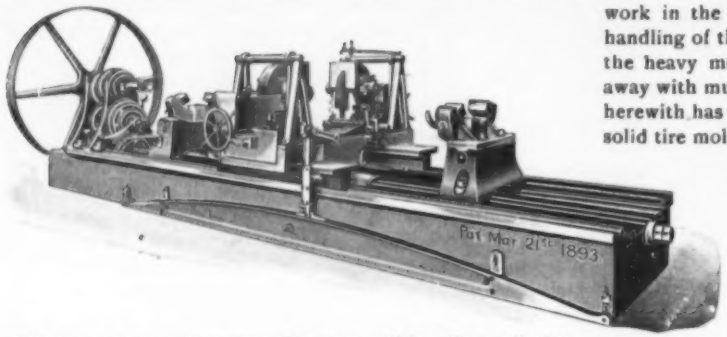
A NEW TUBING MACHINE.

THE tubing machine for rubber, of which an illustration is here shown, has a number of special advantages. In the first place, by the use of four needle valves, it has but one water pipe and one steam pipe. The screw, which is of steel, has a double increase pitch, so that it kneads the gum before delivering it through the die, in compressed form. The bore is perfectly clear, with no undercuts from the spider, making a change of stocks very easy and rapid. In changing dies it is not necessary to take off the head. By the use of the spanner and the loosening of a couple of set screws the change is easily effected. The steam jacket also extends clear to the front of the die so that no torch or gas jet is needed to make the gum flow easily. The gears are Brown & Sharpe cut gears and the machine is built especially for fine work, from $\frac{1}{8}$ to $\frac{1}{4}$ inch, inclusive. [Excelsior Machine Works, Akron, Ohio.]



THE CROWNING OF RUBBER COVERED ROLLS.

THE old time Poole grinder is historic. Its adaptation to the needs under consideration, a change that makes it unique, consists in a tapering device which allows of the accurate crowning of rolls to the thousandth of an inch. To digress a moment, the writer well remembers when expert rubber manufacturers scoffed at the idea of a spring in huge calender rolls that necessitated crowning, but no one takes such a position to-day. Only those of the rubber manufacturers who supply the wants of the paper trade know how accurate the crown on a roll must be, but a variation of one or two thousandths of an inch from the correct amount delivers the sheet of paper thin in the middle or at the edges and condemns the roll. The machine ordi-



narily sent out to rubber manufacturers will handle a roll 28 to 30 inches in diameter and 13½ feet long. The manufacturers, however, have at their shops one that handles rolls 36 inches in diameter, and 160 inches long. Numbers of rubber manufacturers in the line of mechanicals are equipped with these machines, but it is the users of rubber covered rolls, the paper manufacturers, who are the chief purchasers of them. In this industry they are used not only for crowning the rubber rolls, but also for brass rolls and for the chilled iron callender rolls. [The Farrel Foundry and Machine Co., Ansonia, Connecticut.]

THE "UMBRELLA TOP" SCREW PRESS.

IN small mold work in rubber, where the screw press is used it is often an advantage for the workman to be able to apply the power on a line with his chest and shoulders, instead of reaching as high or higher than his head. It is far less fatiguing to the operator and a better leverage is obtained. It was for exactly these reasons that the type of press here shown was designed. The hand wheel has ample clearance, and if greater leverage is desired, its diameter may be materially increased. Indeed, the manufacturer is to-day supplying them much larger than on the press shown, which is from a photograph of the first one built, in which the "knock" principle is made use of. [A. Adamson, Akron, Ohio.]

PATENT MOLD AND VULCANIZER FOR SOLID TIRES.

THE rubber solid tire, of whatever size or type, is as a rule made in a long straight two part mold. In the process of cure this mold is either put into a large steam press, or, the plates being fastened together by some 30 bolts, it is placed in a vulcanizer. The latter is the more common way and entails much work in the opening and closing of the vulcanizer head, the handling of the hot bolts every half hour, and the swinging of the heavy molds in and out of the curing chamber. To do away with much of this detail, the mold-vulcanizer illustrated herewith has been produced. Described briefly, it is the usual solid tire mold made with an upper and lower platen, except that these platens are much thicker, and are chambered to admit steam for the curing. The upper platen has what are substantially square chambers separated by baffle plates, in the alternate ends of which are openings causing the steam to zig-zag in its course through the platen thus heating every part. In the lower platen the steam chamber consists of longitudinal steam pipes separated by narrow septums which causes the steam to circulate back and forth for even heating. Both upper and lower platens are fitted with steam entrances and drips and are also equipped with a patent clamping device by which the whole mold is fastened at one motion in one minute. This mold-vulcanizer is already in use in a number of rubber factories and is giving excellent satisfaction. United States patent No. 717,480. [The Williams Foundry and Machine Co., Akron, Ohio.]

FIG. 1.

FIG. 2.

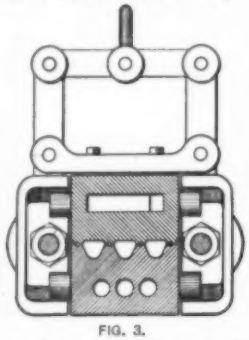


FIG. 3.

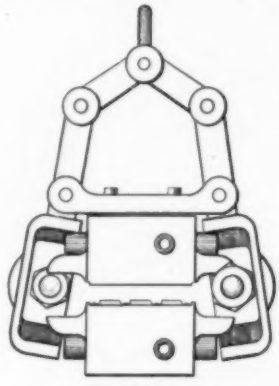


FIG. 4.

Referring to the above illustrations, Fig. 1 relates to the upper platen described in the text; Fig. 2 to the lower platen; Fig. 3 is a view of the mold-vulcanizer when closed, and Fig. 4 the same when open.

"TYRES" IN AN ENCYCLOPEDIA.

THE latest edition of the "Encyclopædia Britannica," the world's greatest reference work, contains an article on "Tyres," the spelling of which word shows that while the scope of the work has been broadened by the addition of Americans to the editorial staff, the British end still predominates. The British quality of the work is further evidenced by the fact that "tyres" are referred to and described as consisting of air tubes and detachable covers, the details being illustrated fully, while no illustration appears of the single tube type, of which so many millions have been made in the United States—the country in which more copies of the "Britannica" are sold than in any other. America is recognized in this article, however, through the inclusion of a cut of the Goodyear detachable double tube tire, with a description of its characteristics—though one is not told where this may be bought.

"THE GREAT PARA RUBBER PLANTATION CO."

THE two pictures on this page are accurate reproductions from recent advertisements of the Para Rubber Plantation Co. These and other pictures used in the same connection purport to illustrate details of the work of this "great trading and rubber gathering company," "on its mammoth properties in Venezuela," and on which "six thousand men are working." Its "trading posts make average profit of 100 per cent.," and mention is made of "steamships transporting its supplies to and from station to station."

This is not the first time, by the way, that the two pictures referred to have appeared in the reading pages of THE INDIA RUBBER WORLD. The picture on the left, labeled "Packing Rubber for Shipment," and which we find in an advertisement of the Para Rubber Plantation Co. in *Leslie's Weekly* of June 25, 1903, was copied by that company from a half page view in THE INDIA RUBBER WORLD of March 1, 1902 [page 177] of the warehouse of the long established rubber exporting firm of Witt & Co., at Manáos, Brazil, through which, in a single year, more than 7,000,000 pounds of rubber have been shipped. Our picture appeared before the Para Rubber Plantation Co. had an existence.

The picture on the right, we find in an advertisement of the Para Rubber Plantation Co. in *Leslie's Weekly* of July 23, 1903, under the heading, in large type "THIS IS A TRADING POST," and in smaller type, "on the Casiquiare river - - -. The entire length of this river is owned in fee, without bonds, by the great Para Rubber Plantation Company." But this picture was copied from a half page view in THE INDIA RUBBER WORLD of January 1, 1902 (page 117), described as "Ramate de Males—A Rubber Station on the River Javary"—a point not to be reached from the Casiquiare river without 2000 miles or more travel.

There are many other things in the advertisements of the Para Rubber Plantation Co. that have not been copied from THE INDIA RUBBER WORLD, and these we are prepared to admit to be original—indeed, to be pure invention on the part of the company's promoters, with no relation to actual conditions on the Casiquiare. The advertisements have not failed to attract attention in Venezuela, relating as they do to matters not before known in that country, The *Venezuelan Herald*, of Caracas, on February 15, 1903, said of a prospectus of the Para Rubber Plantation Co:

The article is interesting, for it informs us, a fact of which all the world was in ignorance, that *cacao is to be found in the valley of the Orinoco*. If all the figures furnished by the Antwerp promoters of this company are as exact as this statement, we pity the future shareholders.

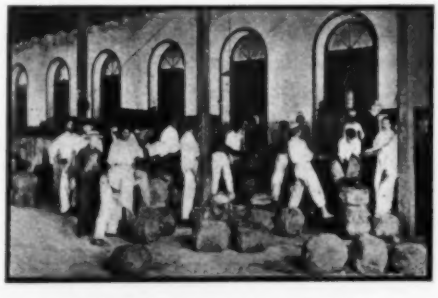
The same journal of July 31, 1903, spoke of the legations and foreign consulates at Caracas being "inundated with demands for information about the Para Rubber Co.", which enterprise was "totally unknown" there.

It may be added that THE INDIA RUBBER WORLD has received many similar requests for information since our issue of November 1, 1902, in which the details of the company's prospectus were set forth at considerable length. The Para Rubber Plantation Co. was incorporated August 11, 1902, under the laws of Arizona, with $5,000,000 capital authorized, and its offices are at No. 52 Broadway, New York. We are unable to learn that the company has any business elsewhere.

An advertisement in one of the monthly magazines describes the trip of an unnamed visitor to the Casiquiare. Leaving Pará he reached Manáos by steamer in two days [other people require five or six], tieing up at "the wharf used by the Para company." Then "taking one of the steamers of the Para Rubber Plantation Co. at 9.30 P.M.," he arrived almost at once, and without noticing the rapids in the Negro which impede other travelers, "at San Carlos, the head trading station of the Para Rubber Plantation Co., a town mainly controlled by this great company, situated at the mouth of the rio Casiquiare, where it empties into the rio Negro." Here he was "royally entertained" overnight by the general manager for the company [name given]. The next day he steamed up the Casiquiare, reaching "Station No. 3." at "Danano creek," about noon, when, after "a lunch of tinned delicacies and native wine," he took to the woods and watched the natives gather rubber by methods different from any ever before described in print, and at a cost to the company "figured at about 35 cents per pound, packed for shipment."

This advertisement was printed in January, 1903; in the October preceding, the manager named in it visited THE INDIA RUBBER WORLD office, not then having gone to his post to begin the initial work of development. At that time the Casiquiare region was reported to be a virgin forest; everything remained to be done. According to later advertisements, this new $5,000,000 company paid a 6 per cent. dividend in March, and now a second dividend is announced, payable September 20. Very rapid development, for a new country.

According to all the maps, the Casiquiare has two outlets to the Atlantic ocean—one through the Orinoco, and one through



PACKING RUBBER FOR SHIPMENT.

View of Witt & Co.'s warehouse in Manáos, appropriated for advertisements of the Para Rubber Plantation Co.

THIS IS A TRADING POST on the Casiquiare River.
—*Advertisement.*

View of a trading station on the river Javary, in Brazil, appropriated for advertisements of the Para Rubber Plantation Co.

the Negro to the Amazon and thence to the seaboard. In a recent book [" Down the Orinoco in a Canoe." London: 1902] Peréz Triana, son of a former president of Colombia, describes the difficult feat of shooting the rapids on this river at Maipures and Atures, ten days being consumed in a progress of fifty miles. But not to mention the rapids, the Orinoco has been closed to navigation for more than a year by the troubles in Venezuela.

Navigation on the Negro is not much better. Our correspondent at Manáos writes that the river is really navigable only to Santa Isabel, where the rapids begin; " the Casiquiare is a good 400 miles from Santa Isabel," he adds; " then how do these people expect to work their *seringales* (rubber camps)?" Lieutenant Herndon, of the United States navy, in 1851, reported that several weeks were required to go from Manáos to San Carlos, but that was before the days of steam. The Baron de Marajó, of Pará, in his book [" As Regiões Amazonicas." Lisbon: 1895] finds 31 cataracts on the Negro worthy of mention, some of them being described as dangerous.

So much for shipping facilities.

Our Manáos correspondent wrote on June 13 last: " We still await confirmation of the Casiquiare syndicate's prospectus. So far nothing is known here as to work in that direction. Mr. ——— [the manager advertised as entertaining " royally " on the company's estates] was here some months lounging around the saloons, but did not go up river, and has disappeared Pará-wards."

A representative of THE INDIA RUBBER WORLD who visited the offices of the Para Rubber Plantation Co. in New York, on August 20, was politely received by a young gentleman who was alone in charge, all the officials being out of the city—some of them out of the country. They alone were prepared to give any information regarding results achieved. He knew that rubber had been gathered and shipped and sold in New York at a handsome profit, besides the profit on the turnover of merchandise shipped to the Casiquiare. But how much rubber, and at what price, or to whom consigned—one must wait for the return of the secretary. None of these things were known in the office. He had heard of " ninety hundred tons of fine Pará " awaiting shipment from the company's stations. Some of it was expected soon by way of the Orinoco. When reminded that 9000 tons was several times as much as the world's present visible supply of Pará rubber, and that putting such an amount on the market at once would cause a tumble in prices, he said it might be " ninety hundred pounds "; he was n't certain. The company gathers only " fine Pará "; the young man was not aware that there was any " coarse Pará." [Pronounced *Pa'ray* at No. 52 Broadway.]

Was he certain that their manager had actually reached the Casiquiare? Oh yes.

How could one be assured on that point? By writing to the Consul. The manager's mail had been addressed in his care.

What Consul? The one at Manáos.

But getting his mail at Manáos would not prove that the gentleman had gone upstream? (No answer.)

The whole Venezuelan rubber crop received at Manáos for the year arrived in a lump late in June, being nearly 80 tons, as against 70 tons last year. How much of the increase was contributed by the Para Rubber Plantation Co.? The young man could not say.

The gentleman above referred to carefully ignored all requests for his name, but his visitor thought that he was addressed by a stenographer as " Mr. Merrill." This name, by the way, may be looked for further along.

Of late the advertising of this company has been done through the medium of the " Standard Securities Co.," the name of which is painted on the door of an adjoining room. Here is a specimen letter from the latter concern:

NEW YORK, N. Y., August 19, 1903.

DEAR SIR: Herewith we hand you fac-simile copy of announcement of the second semi annual dividend of the Para Rubber Plantation Company, which will no doubt please you.

We would respectfully request that your order for stock be in our hands no later than September 15th, in order that we may equably apportion the small block remaining in our hands for sale.

In our various letters we have predicted $1 00 per pound for Pará rubber by January 1, 1904, and we now call your attention to the fact that it is selling for $1 00 per pound to day in New York, with predictions for $1.25 per pound before long; costs 35 cents laid down in New York. Increasing dividends are assured. Yours very truly,

JACK MERRILL,
Secretary for the selling company,
THE STANDARD SECURITIES COMPANY.

The announcement of the forthcoming dividend also appears here, in reduced *fac simile*. Note the expression, " In answer to your inquiry," a dividend has been declared, etc. The

PARA RUBBER PLANTATION CO.
MAIN OFFICE
52 BROADWAY, NEW YORK CITY

New York, August 11, 1903

Standard Securities Company,
52 Broadway, City.

Gentlemen:-

In answer to your inquiry, I wish to state that at a Meeting of the Directors of the Para Rubber Plantation Company held this day, our second semi-annual dividend of six per cent (6%) was declared payable to stockholders of record September 16th.

Yours truly,,
Allen T. Haight
Vice-President.

P.S. Checks will be mailed September 20th.

" Standard Securities Co." had been advertising since June a 6 per cent. dividend for August. Then why " inquire " about it in August? Perhaps because it was so easy to "inquire," it being necessary to only open the door to the next room and walk in.

As shares are still offered for sale, presumably the 12 per cent. in dividends to date do not apply to the whole $5,000,000 of capital. Say it applies to $1,000,000—that would require $120,000. No rubber man will believe that the Para Rubber Plantation Co. has netted more than 25 cents per pound on its product, which rate would call for the sale to date of 480,000 pounds. Does any rubber man believe that so much has been sold by the company?

By the way, an advertisement which appeared on July 30 said: "**300,000** pounds of pure and fine Pará have been made on the lower end of the property of the Para Rubber Plantation Co. this season so far." This would make 50 pounds each for the 6000 men advertised as at work.

It may be of interest to some readers to know that an in-

quiry made of the New York houses who handle practically all the crude rubber imported into the United States, and who are careful to keep informed in regard to the rubber movement throughout the world, brought out the statement in every case that they had never heard of any rubber being shipped by the Para Rubber Plantation Co.

THE INDIA RUBBER WORLD has devoted space freely to the operations of other rubber exploitation companies, and will welcome for publication any evidence that the Para Rubber Plantation Co. has marketed one ton of rubber, or that it has equipped one trading post, or that it is represented by a responsible agent anywhere near the Casiquiare.

"DOCUMENTARY PROOFS."

EXTRACT from a circular entitled "Documentary Proofs," distributed by the Para Rubber Plantation Co. in July, 1903:

"Elaborate plans have been made by which the work of the company is now carried on, on a truly magnificent scale in every detail. The company, without doubt, now owns the richest rubber producing country in the world, the country whose product commands the highest price. A line of steamships has been established which ply on the Orinoco and Casiquiare rivers, between the stations established all along the line, making the trip from the property to New York in sixteen days."

LETTER from an important shipping company, with interests on the Orinoco:

THE ORINOCO STEAMSHIP COMPANY.

Port of Spain, Trinidad. Cuidad Bolivar.

17 Battery Place, New York.

NEW YORK, N. Y., Aug. 6, 1903.

TO THE EDITOR OF THE INDIA RUBBER WORLD: In reply to your letter of the 5th inst., we beg to say that according to our last advices, all steam communication between the upper and lower Orinoco has been suspended, and traffic between Cuidad Bolivar and the seaboard has not yet been resumed since the capture of that port by the government forces. Yours very truly,

THE ORINOCO STEAMSHIP CO.,
A. DA COSTA GOMEZ, Secretary.

NO NEWS IN CHICAGO.

THE published list of officers of the Para Rubber Plantation Co. is headed "John Cudahy, president." In the list of directors he is described as "John Cudahy, packer, Chicago." This gentleman is connected with the Cudahy Packing Co., engaged on so important a scale in the meat trade in the West. Another Chicago man is treasurer, and two more are named as directors. It has not been possible, however, to derive any information from that quarter. A telegram from the Chicago correspondent of THE INDIA RUBBER WORLD on August 26 stated that Mr. Cudahy was ill, and could not be seen, and that the other Chicago officers were away on vacations.

SPONGE waste, imported into the United States from Nassau, consists of small fragments of sponges, which have been clipped from the ragged edges of merchantable sponges, in the process of preparing them for the market, and are raked up and put into bales usually of 500 pounds each. It is chiefly employed in the manufacture of paper known as asbestos sponge paper, used for insulating purposes and composed of about 80 per cent. of asbestos and 20 per cent. of sponge waste. It is also put up in the form as asbestos sponge filling and used for lining refrigerators, for deadening walls, and for lining horse collars and saddles. It is imported by manufacturers of asbestos goods, who have claimed it to be entitled to entry free of duty, but in a recent decision on a protest of the H. W. Johns-Manville Co. (New York), this waste is held to be dutiable as sponges, at 20 per cent. *ad valorem*.

THE CUP OF MELTED RUBBER.

THIS being a progressive world, it is natural that the advance of time should constantly bring new facts to light, including facts explaining the discovery of the vulcanization of rubber. In this connection the able Waterbury (Connecticut) *Republican* is the first authority, to our knowledge, to introduce the incident of the cup of melted rubber. Its statement of how Goodyear was surprised is given herewith:

One day, while standing idly by a stove upon which a cup of melted rubber stood, he threw in a handful of melted sulphur and was surprised to find that the combination solidified. - - - From this accidental discovery we derive the thousand and one articles that vulcanization of rubber makes possible.

THE RUBBER TRUST NOT ALARMED BY THE TOCSIN.

IMPORTERS and manufacturers of rubber in New York and Boston are not worrying about the tocsin sounded in England and Belgium over the discovery of an African rubber plant that, it is alleged, is going to revolutionize the market, and break up the trust that has for so many years controlled the rubber supply from the Orinoco.—*New York Times, June 21, 1903.*

ROOT RUBBER AND POLICE IN BRAZIL.

IN their greed for gain the first native gatherers destroyed thousands of trees by extracting the sap, even from the roots. Root rubber, as it is called, brings a low price compared with other rubber; still it is remarkable, and the Indians were out for all that they could get. Under proper supervision the root rubber trade has been stopped and the trees saved. The policing of the rubber district is almost as severe as the protection of the diamond mines in South Africa. The root rubber iniquity almost devastated the Brazilian forests near the waterways as well as the Amazon and the lower Negro.—*New York Times, June 21, 1903.*

WHERE CRUDE RUBBER IS MADE.

ALTHOUGH Pittsburgh is one of the largest consumers of rubber, extensive manufacturers of the crude product are located principally in New England and New Jersey, millions of dollars being invested in the plants.—*Pittsburg Leader, April 12, 1903.*

DOES RUBBER GROW IN MAINE?

THERE are innumerable sorts of gum trees and so-called rubber plants and trees which exude a milky, sticky substance resembling genuine rubber milk. Even the milk weed of our roadside and the chicla or chewing gum of the Maine woods may be called rubber plants, of which there are 53 botanical varieties of the general species or family.—*Pittsburg Leader, April 12, 1903.*

INDIA RUBBER IN THE COUNTRY EDITOR.

IN looking over one issue of an exchange we find that the editor hopes, is glad, is pained, is pleased, is delighted, has regret, and has heartfelt sorrow. No one could stand such a combination but the country editor, who generally has an elastic conscience and an India-rubber stomach.—*Centralia (Kansas) Journal.*

THE TRUTH ABOUT LOT'S WIFE.

THE fate of Lot's wife
Was all her own fault;
She first turned to "rubber,"
And then turned to salt.
—*New York American and Journal.*

POLITENESS AND RUBBER TIRES.

POLITENESS is like a rubber tire; it may not be very solid, but it eases the jolts wonderfully.—*Philadelphia Inquirer.*

FINANCES OF A RUBBER STATE.

THE details of the new fiscal arrangements of the state of Amazonas (Brazil) can be stated more fully than has been done hitherto in THE INDIA RUBBER WORLD, since the appearance of the official report of Dr. Porfirio Nogueiro, secretary of state of Amazonas, who visited New York some time ago for the purpose of placing the new state loan. A total issue was authorized of £1,500,000 [=$7,299,750], 5 per cent. thirty year gold bonds, one half to be devoted to the purchase of public utilities in the city of Manáos, and the remainder to refunding the outstanding state bonds and cancelling the floating debt. Holders in New York of ten year Amazonas bonds payable in currency, amounting to 382,500 milreis, exchanged them for £11,475 in gold bonds, indicating that the basis of exchange was the valuation of the former at 60 per cent., which would effect a reduction of 40 per cent. in the obligations of the state.

Dr. Nogueira placed in New York bonds to the extent of £498,560, at 85 per cent., yielding $2,055,890.78, including the gain on the sale of a few bonds ex expired interest due January 1 last. The proceeds were applied to the purchase of the Manáos railroad (including a contract for supplying the city with water) and the electric lighting plant—enterprises promoted originally by New York interests with which Mr. Charles R. Flint is identified. Bond proceeds in New York were applied as follows:

Manáos city railway	$1,724,863.70
Arrears of subsidy due same	178,955.30
Electric lighting plant	82,450.00
Arrears of subsidy due same	61,666.17
Surplus remaining	7,955.61
Total	$2,055,890.78

The remainder of the bond issue was deposited in the state treasury at Manáos for use in refunding operations, and to provide for further public improvements. Besides scaling the state debt 40 per cent., Dr. Nogueira points out that the state is a gainer by becoming owner of the public utilities, without the payment of a cent of cash, since the yearly charges will be less than the subsidies paid hitherto, while the revenue from the railway and electric lighting will provide an ample sinking fund for the bonds. One-thirtieth of the amount of each bond is to be retired annually through the medium of a coupon maturing on July 1, and the whole issue is secured by the hypothecation of the export duties (on rubber, mainly) and certain other revenues of this state.

The Manáos Railway Co., in 1899, succeeded the old Viacão Suburbanã› Urbana Manauense, founded by Frank Hebblethwaite, an Englishman. In the year named the steam line was superseded by the overhead trolley system. The office of the company is at No. 25 Broad street, New York—the address of Flint & Co.—and at a recent date the directors were: Anthony N. Brady, Charles R. Flint, F. H. Hebblethwaite, Edmund C. Converse, Frederick Stewart, John W. Scott, W. D. Walker, W. W. Ladd, Jr., and A. J. Moxham. Fifteen miles of single track narrow gage road are operated, on five different routes, employing usually about twenty cars. The fare is 250 to 1000 reis—6 to 24 cents—according to distance. The plant is reported to be in good condition. The capital of the company, $1,400,000, was transferred on the basis of 94¼ per cent., and the mortgage bonds of the company, nominally $687,000, were valued at $295,165.70.

Dr. Nogueira presents figures to show how the state will benefit through the cutting off of the subsidies paid to the railway company, while taking charge of its earnings, which are here converted to terms of United States money on the basis of 12 pence to the milreis, as follows:

Annual Saving:		
Payment for water	$ 84,079.60	
Railway subsidy	45,050.40	$129,130.00
Annual Revenue:		
Passenger receipts	$155,853 65	
Freight receipts	19,742.00	175,595.65
Aggregating		$304,725.65
Less Disbursements:		
Staff and employés	$97,247.27	
Coal	48,847.50	
Renewals	17,560.00	163,654.77
Net revenue		$141,070.88

The point is overlooked, however, that the "payments" above referred to were largely only promises to pay, and that the railway company has finally obtained its subsidy in the shape of thirty year bonds.

In 1895 a concession for an electric plant in Manáos was obtained by Heliodoro Jaramillo, who proceeded to develop the same. Three years later the contract was transferred to Redman & Brown—a New York firm composed of John C. Redman and George F. Brown, with Charles R. Flint interested. The company was hampered by inability to collect promptly the payments due from the state, and finally the management was assumed by the local authorities. There are 1600 street lights, of the arc system, and 700 or 800 incandescent lights for private users. The company had also the privilege of selling power. Dr. Nogueira gives its sources of yearly income thus:

Lighting of the streets	$78,893.10
Lighting of public offices	4,877.15
From private customers	14,599.50
Total	$98,369.75

The maintenance of this service by the authorities is figured at $73,873.47 per year, which would leave $59,273.97 for the state to pay after deducting the receipts from private customers.

The *Brazilian Review* understands that the holders of the state's obligations were not obliged to surrender them for the new bonds, and that "the great majority of the holders were not only glad, but anxious to exchange."

"RUBBER" FROM GREASEWOOD AGAIN.

IN regard to recent newspaper reports that the rubber industry was about to be revolutionized on account of a "substitute" obtained by "experiments being secretly carried on" with a product of a shrub known in the west as "greasewood," in the factory of The B. F. Goodrich Co. (Akron, Ohio), Mr. B. G. Work, vice president of that company, informs THE INDIA RUBBER WORLD that he never heard of the matter until he saw it in the newspapers. In other words, "the story was made out of whole cloth." One of our correspondents intimates that the writer who first gave publicity to the story was the victim of a jocular young rubber man in Denver. At the same time THE INDIA RUBBER WORLD has a letter from C. M. Fueller, a mining engineer at Denver, Colorado, saying:

We have made a few very crude experiments with the bark of the plant you mention. The bark of the roots of the plants gives a rubber like gum, soluble in all solvents for rubber. The gum increases in elasticity when heated up to a certain point, and seems to possess the quality of vulcanizing. We expect to experiment further with this plant, as our time and business will permit. The plant grows wild in large quantities and we hope eventually to work out a commercial product.

"Greasewood" is one of various low shrubs prevalent in saline localities in the dry valleys of the western United States.

INDIA-RUBBER GOODS IN COMMERCE.

EXPORTS FROM THE UNITED STATES.

OFFICIAL statement of values of exports of manufactures of India-rubber and Gutta-percha, for the month of June, 1903, and for five fiscal years, ending June 30:

MONTHS.	Belting, Packing, and Hose.	Boots and Shoes.	All other Rubber.	TOTAL.
June, 1903	$ 66,749	$ 49,509	$ 223,950	$ 340,208
July-May	753,236	1,006,982	2,075,925	3,836,143
Total	$819,985	$1,056,491	$2,299,875	$4,176,351
Total, 1901-02	634,146	1,046,315	1,781,941	3,462,402
Total, 1900-01	565,726	724,015	1,727,527	3,017,268
Total, 1899-00	541,830	420,746	1,405,212	2,367,788
Total, 1898-99	(a)	260,886	1,504,499	1,765,385

[(a) Included in "All Other" prior to July 1, 1899.]

The number of pairs of rubber footwear exported during the past nine fiscal years has increased as follows:

1894-95	383,723	1897-98	391,832
1895-96	350,713	1898-99	486,586
1896-97	306,026	1899-00	762,016
1900-01	1,469,100		
1901-02	2,594,688		
1902-03	2,307,401		

The average export price during the past fiscal year was 5 cents per pair higher than in 1901-02.

RUBBER SHIPMENTS TO NONCONTIGUOUS TERRITORIES.

OFFICIAL statement of values, for the twelve months ending June 30, 1903, of manufactures of India-rubber:

Alaska	$135,982
Hawaiian Islands	64,315
Porto Rico	19,606
Philippines	58,861
Total	$278,764

IMPORTS INTO THE UNITED STATES.

	1900-01.	1901-02.	1902-03
India-rubber goods	$478,663	$449,756	$665,972
Gutta-percha goods	163,337	127,780	225,198
Total	$642,000	$577,536	$891,170
Reëxports	16,888	13,173	8,656
Net Imports	$625,112	$564,363	$882,514

BELGIUM (SPECIAL COMMERCE).

OFFICIAL values (in francs) of India-rubber goods, for the first six months of 1903 and two years preceding:

IMPORTS.		EXPORTS.	
From Germany	312,552	To France	329,109
" Great Britain	381,168	" Great Britain	112,228
" France	329,446	" Holland	97,432
" United States	18,591	" Germany	21,199
" Other countries	16,330	" Other countries	88,501
Total	1,058,087	Total	648,469
Six months, 1902	858,012	Six months, 1902	681,148
Six months, 1901	702,305	Six months, 1901	633,475

ITALY.

OFFICIAL values of imports and exports of India-rubber and Gutta-percha goods, for the months of January-June, inclusive, in lire [1 lira=1 franc=19.3 cents]:

	1902.	1903.
Imports	2,061,240	2,496,490
Exports	1,514,130	2,027,610

GERMANY.

OFFICIAL statistics of values (in marks) of imports and exports of India-rubber goods for the first six months of three years:

	1901.	1902.	1903.
Imports	6,740,000	6,410,000	7,164,000
Exports	15,570,000	16,318,000	19,884,000

Returns of exports do not embrace tires, which are exported as "parts" of bicycles or automobiles, or rubber toys, which are included under "toys of all sorts." In all these branches exports have been unusually large this year.

COMPARATIVE STATEMENT—SIX MONTHS.

[Values in foreign moneys converted to terms of United States values at par of exchange.]

COUNTRIES.	Imports.	Exports.
Germany	$1,705,032	$ 4,732,392
a Great Britain	[1,906,375]	3,263,757
b United States	502,044	1,915,541
France (special commerce)	1,186,371	903,047
Austria-Hungary	732,686	975,228
Italy	481,823	391,329
Belgium (special commerce)	204,211	125,155
Total	$6,718,542	$12,306,449

a—No returns of imports yet for 1903; the figure given here is one-half the value of imports for 1902.

b—Excluding shipments to non-contiguous territories.

The above table indicates a net export during six months of the value of $5,587,907 to non manufacturing countries. This sum doubtless would be considerably increased if there could be added to it the Russian exports to countries not manufacturing rubber goods.

THE ACRE DISPUTE SETTLED.

THE New York *Herald* publishes a despatch from Rio de Janeiro, dated August 12, to the effect that a settlement of the Acre territory dispute has been reached, and Brazil's sovereignty over the greater part of the territory has been acknowledged by Bolivia, who has been indemnified for her military expenditures. A harbor will be built on the river Madeira and a railway constructed from the Mamoré river to the Madeira. Some time ago, INDIA RUBBER WORLD readers will remember, the government of Bolivia granted a concession of the Acre district to an Anglo-American syndicate—The Bolivian Co.—which act met with active opposition from Brazil, on the ground that the district belonged to the latter country. The syndicate referred to, in view of the disputed ownership of the country, accepted an indemnity from Brazil and went into liquidation. [For a map of the district and a summary of the disputed questions, see THE INDIA RUBBER WORLD, April 1, 1903—page 221.]

The region drained by the Acre river—which connects with the Amazon—is commonly regarded as the richest rubber district in the world, and the settlement of the question of its ownership, and the restoration of order there, may be expected to be followed by renewed activity in the development of the rubber trade there. As for the proposed railway, the object of which will be to assist transportation around the falls in the Madeira—another affluent of the Amazon—no other undertaking could contribute so much to the development of the Bolivia, and especially of the export of rubber from the regions in that country drained by the Beni, Madre de Dios, and other important streams which are without an outlet except through the Madeira.

IN view of the complaints of the German postal authorities of the practice of mailing printed matter in large unsealed envelopes, with wide open flaps into which other mail matter is apt to get caught, causing confusion in delivery, the *Gummi-Zeitung* recommends the use of rubber bands, with address cards attached, for packages of the character described. Business papers, samples of merchandise, and the like, first wrapped with a thin paper, would be held in shape by such special rubber band, while the address could be placed upon the accompanying card or tag. The same device should prove no less practicable in other countries.

BRITISH IMPORTS OF GUTTA-PERCHA.

THE official returns of Gutta-percha imports into Great Britain—the country which still ranks as the largest consumer, by far, of this material—though presented in much detail, are unsatisfactory owing to Balata, and possibly other gums, being embraced under the same heading. To take the figures for five years past, it is certain that the items of imports herewith, included in the official return, cannot relate to Gutta-percha [the figures indicate hundred weights]:

FROM—	1898.	1899.	1900.	1901.	1902.
Dutch Guiana	521	—	1,276	—	756
Colombia	154	475	53	174	685
Venezuela	288	1,597	9,616	5,195	2,639
British Honduras	2	—	47	—	—
British West Indies	1,223	919	3,722	2,437	3,394
British Guiana	4,855	2,942	6,053	3,248	7,860
Total	7,043	5,933	20,767	11,054	15,334
Total in lbs	788,816	664,496	2,325,904	1,238,048	1,717,408

These figures, which relate undoubtedly to Balata, do not even give a full statement in regard to this material, since some of the imports of Gutta-percha credited to Rotterdam and Hamburg probably also are of Balata. The following details also appear, which cannot refer to true Gutta-percha:

	1898.	1899.	1900.	1901.	1902.
Niger Protectorate. ....*cwts.*	112	1,716	1,820	2,249	825

The next figures show the amounts of Gutta-percha credited to Singapore and to all other countries—including the details above—for five years [weights in pounds]:

	1898.	1899.	1900.	1901.	1902.
Singapore	5,445,216	7,610,512	10,764,096	7,438,704	5,822,768
All other	1,637,440	1,629,152	3,354,512	2,466,352	3,572,800
Total	7,082,656	9,239,664	14,118,608	9,905,056	9,395,568

The import values of the Gutta-percha may occasion some surprise among those who hear all the time of the high price of this article. It is evident, from the official return, that much of the Gutta-percha used is not of high grade. The British figures for the imports from Singapore work out as follows, in values per pound, in the different years, to which is added the equivalents in United States money:

1898	1*s.* 11 1/16*d.* = 47.6 cents.
1899	2*s.* 3 1/16*d.* = 55.7 cents.
1900	2*s.* 6 1/16*d.* = 62.4 cents.
1901	2*s.* 11 1/16*d.* = 72.5 cents.
1902	2*s.* 11 1/16*d.* = 72 5 cents.

The extent of consumption of Gutta-percha in Great Britain is indicated by the following comparison of imports and exports of all kinds [in pounds]:

	1898.	1899.	1900.	1901.	1902.
Imports	7,082,656	9,239,664	14,118,608	9,905,056	9,395,568
Exports	1,151,136	880,224	1,709,792	1,224,832	1,190,884
Net Imports	5,931,520	8,359,440	12,408,816	8,680,224	8,204,684

The last comparison to be given here relates to the import values, per hundredweight, (1) for Gutta-percha imports from Singapore; (2) from Venezuela; and (3) from British Guiana—the last two items relating, of course, to Balata:

YEARS.	Singapore.	Venezuela.	British Guiana.
1898	£10 17 9	£ 9 12 8	£10 0 1
1899	12 17 2	9 15 4	10 1 8
1900	14 7 5	10 1 2	9 18 6
1901	16 13 8	13 6 2	14 1 5
1902	16 14 0	12 6 3	9 6 6

VILMORIN-ANDRIEUX ET CIE., 4, Quai de la Mégisserie, Paris—established for more than a century—send us a priced list of tropical plants, including Caoutchouc of the following kinds: *Hevea*, *Castilloa elastica*, Ceará and Pernambuco sorts, and species of *Landolphia*. Both seeds and plants are offered.

RUBBER GOODS FOR SOUTH AMERICA.

IT is not possible, from the official statistics published by the South American republics, to form an estimate of their imports of India-rubber goods, and the statistics of exports from the various manufacturing countries supply such information only in part. It appears that the exports of rubber goods from the United States to South America during the past ten fiscal years have been in value as follows:

1893	$58,194	1898	$60,173
1894	53,094	1899	69,378
1895	53,400	1900	73,242
1896	66,834	1901	80,865
1897	63,878	1902	74,199

British imports of similar goods, specified as for South American ports, for seven years, have been [values converted at $5 to the £]:

1896	$551,925	1900	$425,910
1897	395,370	1901	264,170
1898	421,080	1902	288,350
1899	407,760		

It is probable that the figures for the last two years do not include all the exports to South America, since the customs returns do not give so many details now as formerly, but note only the countries to which the larger shipments go, and lump the remainder under the heading "To other countries."

Germany gives details respecting the trade in rubber goods with different countries only by weights instead of values, and then specifying only a few countries which figure most largely in her trade. With respect to South America we are able to obtain details respecting Argentina, Brazil, and Chile, for two important classifications of rubber goods—and not all rubber goods—and the values given herewith are obtained by presuming that the average value per kilogram exported to South America was the same as the average for all exports in the same class. There is thus made possible the following comparative summary for three years:

EXPORTS FROM THE UNITED STATES.

TO—	1900.	1901.	1902.	Total.
Argentina	$13,905	$22,748	$14,555	$ 51,208
Brazil	19,394	12,750	16,869	49,013
Chile	12,246	14,360	7,233	33,839
Total	$45,545	$49,858	$38,657	$134,060

EXPORTS FROM GREAT BRITAIN.

TO—	1900.	1901.	1902.	Total.
Argentina	$153,265	$ 77,190	$106,240	$336,695
Brazil	170,205	113,200	110,770	394,175
Chile	56,545	46,135	37,760	140,440
Total	$380,015	$236,525	$254,770	$871,310

EXPORTS FROM GERMANY (KILOGRAMS).

TO—	1900.	1901.	1902.	Total.
Argentina	86,300	78,500	85,400	250,200
Brazil	64,100	77,500	75,700	217,300
Chile	71,900	64,600	76,500	213,000
Total	222,300	220,600	237,600	680,500
Value	$472,387	$336,737	$364,462	$1,173,586

COLONEL LOUIS H. AYMÉ, of Chicago, has been appointed United States consul at Pará, Brazil, to succeed Kavanaugh K. Kenneday, who has held the position since January, 1898. Colonel Aymé goes to Pará from the consulate at Guadeloupe, which he has held also since January, 1898. This change is in the nature of a promotion for Colonel Aymé. The salary attached to the Pará consulate is $3000 a year, in addition to which there were fees during the fiscal year 1901-02 amounting to $1681.

RECENT RUBBER PATENTS.

THE UNITED STATES PATENT RECORD.

ISSUED JULY 7, 1903.

NO. 732,728. Rubber roll [in rings or sections composed of sheets of textile material, alternated with sheets of rubber]. James Bennett Forsyth, Boston.

732,740. Exercising apparatus [including a rubber punching bag]. Hans M. Hansen, Quincy, Massachusetts.

732,855. Pessary. Edgar M. Hewish, Philadelphia.

733,014. Bicycle repair plug. David H. Cox, Jr., Rahway, New Jersey.

733,018. Showering device for attachment to bath brushes. Thomas DeVilbiss, Toledo, Ohio.

733,026. Inhaler. Sydney O. Goldan, assignor to Frederick Taglavia-Tanini, both of New York city.

733,027. Inhaler. *Same.*

733,068. Pessary. William W. Mitchell, Anderson, Indiana.

733,071. Weather strip. John M. McGrill, Anderson, Indiana.

733,152. Empyema drainage device. Murdoch Chisholm, Halifax, Canada.

733,158. Vehicle tire [of solid rubber with novel means for retaining the same]. Jules A. Collet, Brooklyn, New York.

733,198. Pneumatic tire [comprising an outer casing and a series of independent inflatable sections arranged therein]. Robert A. Harris, Tucson, Arizona.

733,216. Golf ball. Eleazer Kempshall, Boston.

733,303. Swimming glove [with webs between the fingers]. Ernest G. Vans Agnew, Kissimmee, Florida.

Trade Marks.

40,746. Elastic rubber cement. Charles O. Tingley, Rahway, New Jersey. *Essential feature.*—The words "Stop Cock" accompanied by the letters "C. O. T." Used since November 1, 1902.

40,747. Rubber vehicle tires. The Springfield Rubber Tire Co., New Haven, Connecticut. *Essential feature.*—The capital letter "S" enclosed in a wreath. Used since January 2, 1903.

ISSUED JULY 14, 1903.

733,440. Pneumatic tire [with special thick tread]. Aaron Vreeland, Singac, New Jersey.

733,487. Washer [for filter presses]. Eduart H. Crebs, Oxnard, Cal.

733,540. Vehicle tire [solid with groove to engage inwardly extending flanges of the rim]. John T. Carter, Racetrack, Montana, administrator of John W. Carter, assignor of one half to Charles A. Warren, Chicago.

733,356. Hoof pad. William J. Kent, Brooklyn, New York, assignor to Revere Rubber Co.

ISSUED JULY 21, 1903.

734,024. Horseshoe [with rubber tread]. John E. Watts, Topeka, Kansas.

734,108. Plug for pneumatic tires. Charles R. Tingley, Rahway, New Jersey.

734,111. Cushioned horseshoe. Calvin T. Adams, New York city.

734,116. Fountain pen. John Blair, Brooklyn, New York.

734,118. Life raft [embracing an inflatable buoy]. Horace S. Carley, Hyde Park, Massachusetts, assignor to Carley Life Float Co., Philadelphia.

734,213. Hot water bag. Joshua Barnes, Smithtown Branch, New York.

734,256. Golf ball [stuffed with hair]. Arthur W. P. Cramer, New York city.

734,296. Tire [pneumatic]. Charles Bürger, Chêne Bougeries, Switzerland.

734,301. Hoof pad. John Campbell, New York city.

734,319. Painting machine. John Grahn, Madison, Wisconsin.

734,339. Manufacture of golf balls [the core composed of alternate layers of sheet India-rubber and sheet gutta percha]. Charles T. Kingzett, Chislehurst, England.

734,374. Horseshoe [with rubber pad]. John H. Stair, Akron, Ohio.

734,377. Hose coupling. Frederick Toerge, Wilkinsburg, Pennsylvania.

734,414. Hose coupling. August Freeman, Newhall, Iowa.

734,419. Insulated joint [for rails]. John D. Keiley, New York city, assignor to the Weber Railway Joint Manufacturing Co.

734,434. Pneumatic tire [with impervious hard previously-vulcanized composition strip located in tread]. W. F. Schacht, Goshen, Ind.

734,462. Golf ball. Charles T. Kingzett, Chislehurst, England.

734,463. Golf ball. Charles T. Kingzett, Chislehurst, England.

ISSUED JULY 28, 1903.

734,498. Dilating bougie. Frederich R. Bachler, Oxnard, California.

734,529. Elastic vehicle tire [having sectional locking wires embedded in a solid tire of rubber]. Henry G. Fiske, assignor to Electric Vehicle Co., both of New York city.

734,563. Fountain pen. Frank M. Kegrize, Philadelphia.

735,578. Bathing cap. Henry Lemmermann, Hasbrouck Heights, New Jersey, assignor to Mattson Rubber Co.

734,617. Flue cleaner. Reginald S. Ruggles and Constance M. Ruggles, Ravenswood, Illinois.

734,888. Process of making playing balls. Charles T. Kingzett, Chislehurst, England.

734,912. Pneumatic tire [detachable]. Arthur H. Marks, Akron, Ohio, assignor to the Diamond Rubber Co.

734,913. Pneumatic tire. *Same.*

734,914. Pneumatic tire. *Same.*

734,915. Pneumatic tire. *Same.*

734,916. Pneumatic tire and rim. Arthur H. Marks, Akron, Ohio.

734,926. Artificial foot. William M. Mumberg, Chicago.

735,004. Fountain pen. David L. Wardroper, Atlanta, Georgia.

Trade Mark.

40,816. Sheet rubber packing and gaskets. The Republic Rubber Co., Youngstown, Ohio. *Essential feature.*—The words "Search Light" surrounded by a line of dots, the words "Search" and "Light" being slightly separated, and each word surrounded by an oval line of dots, the dotted oval outline of each word joining the other end to end. Used since March 10, 1903.

[NOTE.—Printed copies of specifications of United States patents may be ordered from THE INDIA RUBBER WORLD offices at 10 cents each, postpaid.]

THE BRITISH PATENT RECORD.

[* *Denotes Applications from the United States.*]

APPLICATIONS—1903.

12,534. J. H. M. Gillies, Glasgow. Golf ball. June 3.

12,634. W. F. Parker, London. Repair appliance for pneumatic tires. June 4.

12,668. A. Batchford, Guernsey. Water hose and steam union. June 5.

12,670. A. Everett, Folkingham. Puncture preventing shield for pneumatic tires. June 5.

12,693. W. H. Dawson and J. Scott, London. Pneumatic tire for motor cars. June 5.

12,694. H. G. Rose, Birmingham. Golf ball and method of manufacturing. June 5.

*12,717. K. V. Painter, London. Golf ball. June 5.

12,756. M. Reynolds, London. Pneumatic tire. June 6.

12,847. L. Johnstone, London. Method of manufacture of pneumatic tires and apparatus therefor. June 8.

13,037. H. Sandwith, London. Elastic tire. June 10.

13,039. G. M. Wolmershausen, London. Puncture proof tires. June 10.

13,277. R. Raffety, London. Golf ball. June 13.

13,286. T. Meacock and O. J. Meacock, London. Motor and cycle tire. June 13.

13,306. The Velvril Co., Limited, and J. S. Howkins, London. Manufacture of India-rubber substitute. June 13.

13,303. R. Taafe, Liverpool. Pneumatic tire. June 13.

13,325. W. L. Jackson, Glasgow. Non-skidding device for pneumatic tires. June 15.

13,368. C. T. Thompson, London. Golf ball. June 15.

13,393. G. R. G. Rowe, London. Craddle solid tire wheel. June 16.

13,396. J. A. Mays, London. Pneumatic tire. June 16.

13,431. C. H. Gray, London. Improvement in the manufacture of India-rubber and Gutta-percha goods. June 16.

13,484. F. Rogers, London. Attachment for pneumatic tires. June 16.

13,594. Jane Rowley, Glasgow. Heel pad for boots. June 18.

13,601. J. W. Pattey, Manchester. Heel and sole pads for boots. June 18.

13,622. W. H. Jane, Bodmin. Rapid tire fixer. June 18.

13,653. S. Fox and R. E. P. Craven, London. Resilient tired wheel. June 18.

13,729. C. E. Foster and Dental Manufacturing Co., Limited, London. Dental rubber. June 19.

13,731. J. A. F. Steinhoff, London. Pneumatic tire. June 19.

13,758. C. A. F. Greggson, Birmingham. Golf ball. June 20.

13,765. Susan Reed and A. J. Reed, Manchester. Rubber tip for boots and shoes. June 20.

13,768. H. Brockas, Coventry. Golf ball. June 20.

13,824. E. F. Piers, London. Resilient wheel for vehicles. June 20.

13,838. E. Siegenthaler, Dunley villa, Berkshire. Mail jacket for tire covers. June 22.

14,027. I. Klein, London. Tire for motors and cycles. June 23.

14,029. C. H. Gray and T. Sloper, London. Elastic tire. June 23.

14,127. R. Hutchinson, Glasgow. Golf ball. June 25.

14,158. J. E. Layton, London. Golf ball. June 25.

14,314. G. W. Robertson, London. Medical irrigator or syringe. June 27.

14,324. W. R. Gore, Liverpool. Pneumatic tire. June 27.

14,347. H. N. Hickley, London. Device for signalling and preventing puncture in tires. June 27.

14,463. E. E. Gold, London. Hose coupling. June 29.

15,540. J. Taylor, London. Pneumatic tire. June 30.

*14,674. K. V. Painter, London. Golf ball. July 2.

14,820. C. W. Jackson, London. Pneumatic tires. July 3.

14,864. W. M. Wallace, Glasgow. Protecting band for pneumatic tires. July 4.

14,862. G. C. Marks, London. Air compressing pump for inflating tires. (Communicated from France.) July 4.

PATENTS GRANTED.

[ABSTRACTED IN THE OFFICIAL JOURNAL, JUNE 4, 1903.]

3,464 (1902). Squeegee [with rubber blades]. F. W. Ingram (trading as J. G. Ingram & Son), and J. C. W. Kofe, London.

*3,468 (1902). Utilizing India-rubber waste. Raymond B. Price, Chicago, Illinois.

*3,619 (1902). Massage apparatus. G. J. Macara, Hartford, Connecticut.

[ABSTRACTED IN THE OFFICIAL JOURNAL, JUNE 10, 1903.]

3,855 (1902). Utilizing India-rubber waste. E. Zühl, Berlin.

3,875 (1902). Heel protector for boots. T. Bardsley, Hyde, and E. W. W. Slater, Denton.

3,988 (1902). Vehicle tire [solid rubber, with protective plates of metal]. F. Musch, London. (Communicated from Russia.)

[ABSTRACTED IN THE OFFICIAL JOURNAL, JUNE 17, 1903.]

4,218 (1902). Seaming waterproof garments. J. M. Gougie and J. Nicolson, Glasgow.

4,245 (1902). Pneumatic tire [with non-puncturable shield for inner tube]. H. E. Harris, London.

4,466 (1902). Fire hose nozzle. A. J. Boult, London. (L. A. Petit, Paris, France.)

*4,666 (1902). Vehicle tire [composed of core and cover of different kinds of rubber]. C. Hird, Woonsocket, Rhode Island.

*4,722 (1902). Elastic tire [consisting of a rubber tube in which are spherical spaces, each containing an elastic ball]. W. H. Ostrander, and W. T. Smith, Poughkeepsie, New York.

4,776 (1902). Vulcanizer for dental work. J. G. Globensky, Montreal, Canada.

*4,753 (1902). Manufacture of rubber boots and shoes [relating to cutting of the vamp quarters and insole in a single piece from a sheet of textile material coated with rubber]. H. J. Doughty, Providence, Rhode Island.

*4,765 (1902). Manufacture of rubber boots and shoes [the machine for molding and vulcanizing rubber footwear to which so much attention has been directed during the past year]. H. J. Doughty, Providence, Rhode Island.

[ABSTRACTED IN THE OFFICIAL JOURNAL, JUNE 24, 1903.]

4,806 (1902). Pneumatic tire [with a series of separately infiltrated air tubes]. R. Fleischer and M. Reithman, Minden, Germany.

4,880 (1902). Inflatable and collapsible form for garment makers. F. Michaelis, Cologne, Germany.

5,009 (1902). Pneumatic tire [with two separately inflated air tubes]. M. Ring, London.

5,012 (1902). Pneumatic tire [relates to the manufacture of inner tubes protected by being formed with a layer of helically wound inextensible threads]. M. D. Rucker, London.

5,056 (1902). Pneumatic tire. J. Purdy, Wallasey, Cheshire.

5,286 (1902). Horseshoe pad. F. T. Giles, Bristol.

5,291 (1902). Valve for pneumatic tires. J. Pollock, Blackheath, Kent.

5,308 (1902). Submarine cable. [Dry core insulated conductors are sheathed in India-rubber, which is afterwards vulcanized, layers of Gutta-percha being then applied.] F. Tremain, Highgate, Middlesex

[ABSTRACTED IN THE OFFICIAL JOURNAL, JULY 1, 1903.]

5,600 (1902). Horseshoe pad. J. Leder, Glogan, Prussia.

5,803 (1902). Pneumatic tire [with puncture preventing tread]. B. H. Chameroy, Le Vesinet, France.

[ABSTRACTED IN THE OFFICIAL JOURNAL, JULY 8, 1903.]

*6,205 (1902). Massage apparatus [including a glove for applying the treatment, carrying a douche nozzle connected by a rubber tube with a water bag]. A. J. Boult, London. (Personal Hygiene Co., Chicago, Illinois.)

6,343 (1902). Golf ball. W. M. Short, Beckenham, Kent.

6,455 (1902). Coating fabrics. P. M. Matthew, Victoria India Rubber Mills, Edinburgh.

6,465 (1902). Solid rubber tire. F. H. Hyde, Toronto, Canada.

6,877 (1902). Pneumatic tire. J. McCanna, London.

THE GERMAN PATENT RECORD.

DESIGN PATENTS GRANTED [GEBRAUCHSMUSTER].

201,932 (Class 3*b*). Elastic attachment for holding on ladies hats. I. Manasse, Berlin. July 1.

201,970 (Cl. 15*k*). Rubber stamp with flat type inserted in tin guides having reverted edges. H. Rautmann, Friedenau near Berlin. July 1.

201,912 (Cl. 47*f*). Rubber ring for removable hose couplings, with separate disc to prevent edges from sticking at high temperatures. C. A. G. Storz, Frankfurt a/M. July 1.

201,779 (Cl. 64*a*). Hollow stopper with rubber ring packing for bottles containing carbonated beverages. Frau Martha Richter, Hamburg. July 1.

202,587 (Cl. 3*b*). Clothes bag with elastic lining, held together by rubber bands on inside. H. Wälde, Kempton. July 8.

202,417 (Cl. 30*g*). Milk bottle holder, having a bottom of rubber loops and side binding strings. G. Lamprecht, Seifhennersdorf. July 8.

202,413 (Cl. 71*a*). Canvas shoe with elastic sides and leather tips. E. Leonhardt, Bischweiler i. E. July 8.

202,192 (Cl. 71*b*). Rubber heel lift, containing metal plate with points. C. Metzmacher, Leipsiz-Gohlis. July 8.

202,193 (Cl. 83*a*). Protective case for watches, with openings for ring and face. S. Bernero, Biella. July 8.

202,774 (Cl. 3*b*). Elastic bands with embroideries. Baus & Foerster, Mermelskirchen. July 15.

203,174 (Cl. 3*b*). Apron protector of rubber with hooks to attach it to apron. Frau Florentine Mundt, Berlin. July 15.

202,970 Cl. 30*g*). Rubber nipple with air slit inside. B. Kohlhaus, Harburg. July 15.

203,054 (Cl. 39*a*). Plate of cork, consisting of single sheets held together by vulcanized rubber. H. Bortfeldt, Bremen. July 15.

203,248 (Cl. 9). Rubber cuff for painters brushes arranged so that by turning it down the bristles may be shortened. P. Welchin, Düsseldorf. July 15.

APPLICATIONS.

17,631 (Class 39*a*). Process for making seamless rubber bags for toy balloons and similar toys. The Rubber Balloon Co. of America, Brooklyn, New York, United States. July 1.

30,851 (Cl. 63*c*). Elastic tire. Mrs. Mary E. Brooke *nee* Gover, Denver, Colorado, United States. July 1.

16,298 (Cl. 52*a*). Fitting for sewing machine to join rubber sheets by sewing and pasting at the seams. Rappolt & Söhne, Hamburg, and Paul Arnheim, Hannover. July 1.

17,151 (Cl. 39*b*). Process for manufacturing substitute for Gutta-percha. M. Frambach, Hamburg. July 8.

17,311 (Cl. 63*c*). For fastening rubber tires on wheel rims. W. I. Gregory, Springfield, Massachusetts, United States. July 22.

7,432 (Cl. 63*c*). Insert for rubber tires. P. W. Tillinghast, Edgewood, and A. T. Begueron, Providence, Rhode Island, United States. July 22.

RUBBER EXPLOITATION AND PLANTING.

RUBBER RESOURCES OF RHODESIA.

THE British South Africa Co., holding a royal charter for the administration of the various territories of Rhodesia, have favored THE INDIA RUBBER WORLD with some details regarding the existence of India-rubber in that region, and the nature and extent of its exploitation to date. Attention will be given first to a report by Colonel Colin Harding, C.M.G., on the rubber industry in North Western Rhodesia—a region bounded on the west by Portuguese Africa (whence come the Benguela rubbers) and on the north by the Katanga district of the Congo Free State, also a rubber producing area. It is natural, therefore, that rubber should be found in this part of Rhodesia. Colonel Harding reports the following native species:

(1) *Landolphia florida.*—Found generally in this territory between 12° and 14° S. latitude; abundant in the marshy and verdant spots, from ½ to 1½ inches in diameter and 20 to 60 yards in length, extending around the forest trees and forming an almost impenetrable thicket. The natives select the larger portions of the vines, leaving the smaller branches, which in another year would have attained maturity, to rot on the ground. The *latex* does not flow from the bark, so that the native method of extraction would appear to be the only practicable one. The vine is cut into lengths of 3 or 4 feet, which are carried into the *kraal* and soaked for 48 hours, and then hammered or pounded to remove the bark from the stems. The resulting mass is then boiled continually for three or four days, to remove as much as possible of the woody fiber of the bark, after which the rubber, while still warm, is rolled into sticks 6 inches long (*matallas*) and hung up to dry, being made later into *chetotes*, ready for the periodical visits of traders, who send it out to the Atlantic coast.

(2) *Kickxia* (*Funtumia*) *elastica.*—Found generally in the same districts; *latex* is obtained by tapping the trees, and the product is better than from the vines, besides being prepared with more freedom from dirt. The rubber is sometimes mixed with inferior sorts to help their sales. Colonel Harding had little personal knowledge of this species, however.

(3) *Carpodinus lanceolatus* ("root rubber"—see THE INDIA RUBBER WORLD, May 1, 1903, page 261).—"Although admittedly it is of inferior quality, still it is a rubber that thrives in the soil where no other root could exist, and will with an ordinary amount of care in collecting it, eventually prove a valuable asset." Abundant north of 15° S. latitude. The root of the *Carpodinus* so nearly resembles a length of *Landolphia* vine that only an expert can distinguish them. The *Carpodinus* plant rises only 6 to 10 inches above the surface, while the roots are found about 4 inches below, and, spreading evenly and uniformly, cover a great deal of ground. "At present the plant is so plentiful that in rubber districts the natives collect only the larger roots, leaving the smaller exposed and perishing under a tropical sun. The surface, after the natives have collected their rubber, resembles an orchard or meadow which has been upturned by a grub-seeking hog." The process of preparing rubber from these roots is the same as from the *Landolphia* vines.

* * *

ANOTHER report is by Dr. Blair Wilson, civil commissioner, in regard to the Mweru district of North Eastern Rhodesia, which lies east of the Congo Free State, between 8° 30′ and 9° 30′ S. latitude. Here are reported several species of *Landolphia* vines, no rubber trees being found. All the species are not of equal value, some yielding rubber scantily and of inferior quality. Rubber has long been used by the natives for playing balls, drumsticks, and the like, and until a foreign demand was developed, the vines were not injured in extracting the *latex*. Then the vines began to be destroyed, until now "the trade in rubber is now practically finished in the Mweru district." Whereas there were in 1899, twenty white rubber traders there, bartering goods for rubber, a large quantity of which was exported, only one trader went through the district in 1902, bringing back very little. Besides, much rubber at one time was smuggled into the district from the Congo Free State, but that has now been stopped by the authorities of the latter. The *Landolphia* vines here grew to a diameter of 4 inches. The natives not only cut all the vines, large and small, but dug up the roots, until nothing remained. The Mweru natives seem to have had but one method of preparing rubber: "The juice is collected by the hand as it flows from the cuts and is then rubbed on the body and limbs; the heat of the body and the spreading out thus in a thin layer facilitate evaporation, for the juice quickly coagulates enough to be scraped off and rolled up in the form of a ball, in which state it is always met with; by this method the maximum of purity is obtained."

* * *

To recur to North Western Rhodesia, the official report of the administrator for 1901-02 (recently printed) reports a rich rubber district in the Bakaonde country, 100 by 75 miles in ex-

"ROOT RUBBER" PLANTS IN PORTUGUESE WEST AFRICA.

[Between the Kuito and Kuando rivers, west of North Western Rhodesia. From "Kunene—Sambesi Expedition. H. Baum, 1903."]

rubber trees of two species, but no *Carpodinus*, so far as he knows. The rubber, prepared in small balls, is of good quality. Very destructive methods prevail, including the tearing up of the roots of *Landolphia*. Many white traders are at work in the district, and large areas are reported in which the rubber has been exterminated. The administration will try, however, to put a stop to these abuses. This district, by the way, is on the eastern border of North Western Rhodesia, while that reported on above by Colonel Harding is on the western border.

Measures of preservation of rubber have been adopted in North Eastern Rhodesia, the administrator of which reports having proclaimed a rubber reserve in the Kafue district (immediately north of the Zambesi river), in which the work of rubber gathering will be regulated. During the year ended March 31, 1902, there were 125,998 pounds of rubber exported from North Eastern Rhodesia, valued at 1*s.* 6*d.* per pound, or £9449 17*s.* No statistics exist for North Western Rhodesia.

THE SOURCES OF "ROOT RUBBER."

DR. WEBER (in *The India-Rubber Journal*) is surprised to see the *Landolphia Thollonii* (Dewévre) described as yielding the "root rubber" of commerce, and quotes Professor Dr. Warburg in support of the contention that it is of very doubtful value, while two other species are mentioned as yielding this type of rubber — *Carpodinus lanceolatus* (K. Schumann) and *Clitandra Henriquesiana* (K. Sch.) Dr. Weber doubts whether *L. Thollonii* is found in any district whence root rubber has been exported, whereas the other two species named abound in those regions.

É. De Wildeman (in *Industrie et Commerce du Caoutchouc*) happens, at the same time, in relating the history of the discovery and identification of *Landolphia Thollonii*, to refer to *Carpodinus lanceolatus*, considered for a long time to be the source of root rubber, to be without value. Professor De Wildeman, by the way, asserts the existence of *L. Thollonii*, not only in the French Congo, but in the Congo Free State, and in Angola. The same author promises an early comprehensive study of the root rubber species, when, it is hoped, the existing confusion may be cleared up.

"ROOT RUBBER" PLANT.

[Specimen of *Landolphia Henriquesiana*, mounted on a stone for photographing. Reduced from a view in "Kunene—Sambezi Expedition."]

What is of more importance from a practical standpoint, than the proper nomenclature of these plants, is the discovery and exploitation of root rubber in districts not hitherto worked, and THE INDIA RUBBER WORLD has intimations that more than one important British commercial firms are pursuing such search in West African regions under British control.

ROOT RUBBER IN ENGLAND.

AN English rubber firm, writing in *The Engineer* (London), say that the obtaining of rubber from the roots of plants in west Africa is no new thing. The letter states:

"Root rubber has long been imported into this country in fairly large quantities under the name of the towns where it is collected on or near the west African coast. We find in our books upwards of a dozen entries under the name of 'Benguela niggers.' It is of a reddish brown, varying to a dark color, and of an excellent quality.

"For years we were puzzled at the appearance of the rubber; it happened, some seven years since, that our rubber expert, Mr. J. T. Wicks, was in Paris; he there saw the director of the eminent rubber house of Hecht Fréres, and asked him why so much red grass was mixed with Benguela rubber, and received the reply that Benguela rubber was obtained from the roots which the natives dig up and finely scrape, as we do horseradish. The scrapings are steeped in water, the rubber separates out, and, owing to its light specific gravity, floats on the surface. The natives then take the plastic rubber and work it into sausage shaped pieces. The sausages are packed in sacks, and in consequence, agglomerate.

"When the rubber reaches English factories it is boiled in tanks, the sausages immediately separate, and on close inspection the native method can be traced. What we supposed to be red grass is the red woody fiber from the scraped roots."

WISCONSIN RUBBER CO.

[Plantation near El Salto, department of Palenque, state of Chiapas, Mexico. Office: Fairchild block, Madison, Wisconsin.]

INCORPORATED July 15, 1903, under Wisconsin laws; capital, $1,500,000 when fully paid. Objects: To develop, on the coöperative installment plan, 5050 acres on the rivers Tulija and Michol, in Chiapas, Mexico. This property adjoins the plantation "Lumija," owned by the Mexican Plantation Association (Chicago)—one of the earliest rubber plantations formed on this plan; the plantation "Philadelphia," owned by the Mexican Plantation Co. (Philadelphia); and the estate of the Iowa Mexican Plantation Co. All of these properties are part of a 25,000 acre tract located by John R. Markley, of Chicago, in 1896, and the development of the new plantation, as was the case with the other three, is to be done under contract by the Mexican Development and Construction Co. (Chicago), of which Mr. Markley is general manager. It is proposed to plant 5000 acres in rubber, with a view to having 300 trees standing per acre after 7½ years, and to cultivate "side crops" on the same ground while the rubber is maturing. Five thousand shares are to be issued, for sale at $300 each, payable in installments, if desired. The land to be developed has been fully paid for. The location is convenient to the gulf port of Frontera. Officers: Professor Rasmus B. Anderson, president; Charles H. Hall, M. D., vice president; Samuel D. Merrick, secretary and general manager; Frederick C. Hutson, treasurer.

JOLIET TROPICAL PLANTATION CO.

[Plantation Joliet, Tierra Blanca, state of Vera Cruz, Mexico. Office: Joliet, Illinois. See THE INDIA RUBBER WORLD, May 1, 1903—page 254.]

AT the first annual meeting over 900 of the 1259 shares sold were represented, in the hands of 294 holders or proxies. President John O. Barrett, presenting his report said: "This com-

pany is doing all that we expected of it." Treasurer T. A. Mason reported $30,537.86 realized to May 31 from sales of shares, of which $8684.55 had been paid on land, $11,040 on improvement work, $1000 for superintendent's salary six months, and $1505.88 for other items specified, leaving a balance of $8307.13, part of which had already been appropriated to pay, before maturity, a note given for purchase of the land. There are still outstanding notes for $21,000, held by shareholders in the company, the last one maturing January 1, 1906. Payments on shares now amount to about $2500 a month. A rubber nursery had been formed, with a view to transplanting this fall. "Considerable rubber" had also been planted at stake. The cattle business is believed to be good, and at first much attention will be given to pasturage. The Rev. D. T. Robertson, of Joliet, was chosen to make the first annual inspection, with Professor H. A. Fraser alternate inspector. The company own 3200 acres of land. The financial report above mentioned is noticed here so fully because it is the clearest yet published by any of the rubber planting companies organized on the coöperative installment plan.

LA NUEVA PROVIDENCIA RUBBER CO.

[See THE INDIA RUBBER WORLD, May 1, 1903.]

AT a meeting of the shareholders (Providence, Rhode Island, July 29), it was voted to increase the capital stock from $20,000 to $100,000, to develop the company's rubber plantation in Guatemala. After the meeting the shareholders enjoyed a dinner at the Narragansett Hotel, for which had been prepared a handsome and unique menu card, bound in sheet rubber.

MEXICAN MUTUAL MAHOGANY AND RUBBER CO.

INCORPORATED under South Dakota laws with $2,500,000 capital, in $1 shares, now offered to secure funds for completion of purchase price of 168,988 acres, in Palenque department, state of Chiapas, acquired directly from the government, and to begin work of development. The plans embrace the cutting of mahogany and cedar and gathering wild rubber and chicle, both of which are reported to abound on the property. It is not intended, at first, to do any planting. There has been a change in the list of officers since a former notice in these pages (April 1, 1903—page 226). Dr. O. Hasenkamp is president, J. A. Parker vice president, H. H. Barber secretary, and George A. De Witt treasurer—all of Toledo, Ohio, where offices are established in the Spitzer building.

THE UDAPOLA RUBBER CO., LIMITED.

THIS is a new company, with capital authorized of 50,000 rupees [=$16,221.67], formed to purchase the Udapola estate, in the district of Kegalla, Ceylon, and to develop the same, or any other premises that may be acquired, India-rubber planting to be the chief object. Directors: E. D. Harrison, William Saunders, Thomas C. Huxley, A. L. H. Haycock, and F. L. Clements—all of Colombo.

AN EXPEDITION TO THE AMAZON.

MAJOR J. ORTON KERBEY, of Pittsburgh, Pa., some time United States consul at Pará, since when he has been interested in the development of enterprises in relation to rubber exploitation, informs THE INDIA RUBBER WORLD that he is organizing an expedition to the Amazon valley, to give investors and merchants an opportunity to see for themselves the resources of the rubber regions and the possibilities of trade in them. Several citizens of Pittsburgh have expressed an intention of joining the expedition.

BALATA IN TRINIDAD.

THE report of this British colony for 1901-02 mentions the appointment of a forest officer, in order to preserve the forests in a systematic manner. "Large quantities of Balata," it is stated, "a valuable species of hardwood, have been killed by persons stealing the gum for exportation, but steps are now being taken which it is hoped will put a stop to this destruction."

MEXICAN HOSPITALITY AT MANATITLAN.

THE United Planters' Association of Mexico, composed largely of Americans interested in rubber and coffee plantations, arranged to have a general meeting followed by a banquet and ball at Minatitlan, Vera Cruz, on the Fourth of July. It happened that the *jefe político* of the canton heard of it, and calling the principal Mexican business men together, a generous sum of money was raised, so that the town was decorated, and the American guests were greeted with bands of music, fireworks, and cannonade salutes, and Mexican and American fraternized in a manner that was delightful to behold. The banquet, with its speeches, its songs, and the ball that followed, was most successful. On the morning following the celebration, the United Planters' Association met and resolved to fraternize with their Mexican hosts, on their own Independence Day, which takes place on September 16. For this $2000 was pledged, and an exceedingly interesting celebration is in prospect.

DROUGHT IN CEARA (BRAZIL) AND RUBBER.

THE exportation of rubber from the Brazilian state of Ceará (from *Manihot Glaziovii*), though begun as long ago as 1846, has so far failed to attain great importance, if an exception be made of two or three years embraced in the table below. The exports for ten years past have been [in kilograms]:

1893	135,309	1898	1,008,317
1894	146,627	1899	520,476
1895	191,108	1900	436,176
1896	324,327	1901	228,782
1897	493,507	1902	300,000

As indicated in THE INDIA RUBBER WORLD of April 15, 1894 (page 8-9), the methods of extraction of Ceará rubber are injurious to the trees, but another important consideration is the frequent prevalence of severe drought. The *Brazilian Review* remarked lately that "drought in Ceará has become so common as to appear almost the normal condition." In 1898, according to a British consular report, 25,872 poor people emigrated from that state to the Amazon rubber regions to find work, on account of the parched condition of the lands. The loss in cattle, which could not be removed, was very heavy. The total rainfall was only 20⅛ inches, against 75¼ inches in 1897. It is reported, by the way, that the drought now prevailing in Ceará is exceptionally heavy—a fact which may again, as in the past, contribute to a heavy rubber crop on the Amazon, due to the exodus thither of Cearenses. Meanwhile the Ceará rubber crop may be expected to be very small.

RUBBER MONOPOLY IN THE EGYPTIAN SOUDAN.

THE Anglo-Egyptian administration in the Soudan, by decree of May 1, 1903, has claimed for its own the commerce of Caoutchouc and Gutta-percha (all through the Soudan with the exception of Kordofan), as well as of ivory (in the Bahr-el-Ghazal and Fashoda districts), under governmental management. Seemingly this measure has been prompted by a desire to prevent the obnoxious system of spoliation with regard to these valuable natural products, as is practised in so many regions of Africa.—*Gummi-Zeitung*.

RUBBER PLANTING COMPANY PUBLICATIONS.

BATAVIA Plantation Co., Milwaukee, Wisconsin=Information Bulletin [August, 1903]. 8 pp.

The Motzorongo Co., Chicago, Illinois=The Motzorongo Bulletin, No. 11, August, 1903. 4 pp.

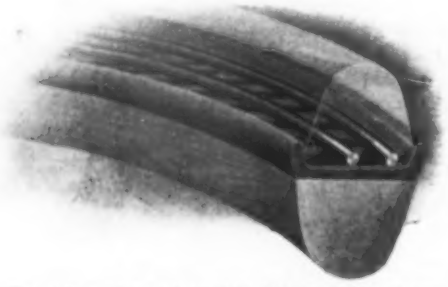
NEW GOODS AND SPECIALTIES IN RUBBER.

AN AMERICAN TENNIS BALL.

THE B. F. Goodrich Co. (Akron, Ohio), having revolutionized the golf ball industry by the manufacture and sale of the "Haskell," are now turning their attention to an improvement in tennis balls. Some few of these balls were made last season but it was not until this spring that they reached the state of perfection to command the praise of the most expert players throughout the country. It is generally conceded that the manufacture of tennis balls is one of the "trickiest jobs" in the trade. The Goodrich company went about it in their usual systematic manner, and, to begin with, employed an expert at the game, in order to check up results as the work progressed. Heretofore, American tennis balls have been at a great disadvantage, because the rubber balls, or "centers," as they are technically called, were imported from Germany. The Goodrich company do all of the work at their factory in Akron, turning out finished balls of the highest quality from the crude materials. In fact, the Goodrich tennis ball is the first truly American made one to be produced in this country. It was used exclusively for the Southern Championship tournament at Washington this spring, held under the rules of the United States National Lawn Tennis Association, and in a number of smaller tournaments. On account of the enthusiastic reception accorded the new ball by the players, a special meeting of the United States association was called to be held during the latter part of August, at Newport, during the National Championship tournament, when the question of adopting an official ball for next season's tournament was to come up. The tennis ball itself, on analysis, shows excellent workmanship, the body of the ball being made of white rubber, lined with pure unvulcanized solution with a pure lozenge through which the air for inflation is forced. The outside of the ball is covered in the usual manner and marked "Goodrich 1903."

THE "REPUBLIC" CROSS-WIRE TIRE.

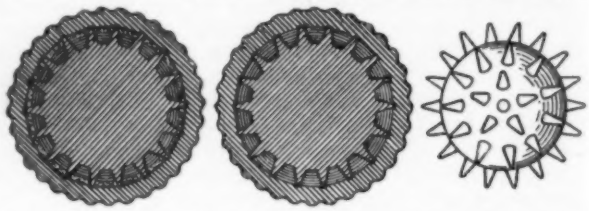
THE illustration relates to an arrangement of cross wires, beneath longitudinal retaining wires, in a solid rubber tire for



vehicles. The effect claimed is that the tire cannot come off, there being no cutting through the base, and the manufacturers refer to the use of materials of a quality which enables them to guarantee the tire. [The Republic Rubber Co., Youngstown, Ohio. Selling manager of these tires in New York, Frederick E. McEwen, No. 808 Seventh avenue.]

THE CRANDALL GOLF BALL.

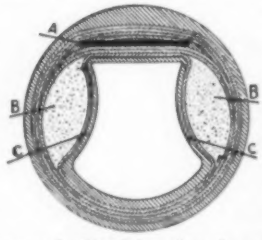
A GOLF ball that already in an experimental way has shown many points of excellence is that illustrated by the accompanying cuts. It is quite simple in design, the core being a rubber sphere from the surface of which are a great number of protuberances. These are in reality pyramidal spines of rubber so vulcanized that they are of a different texture from the body of



the sphere. The rubber core, in making the finished ball, is wound with fine thread and over that is put the Gutta-percha cover. The theory is that this combination and arrangement gives peculiar resilience that equals the best flyers among golf balls and yet produces a ball that is much cheaper to make and easier to repair. Another claim is that the cover very rarely splits in a ball of this type. [Stoughton Rubber Co., Boston.]

TENNANT'S PUNCTURE PROOF TIRE.

THE object in the construction of this tire is to prevent collapsing when in use by reason of being punctured or cut. The



body of the tire is composed of an outer tubular portion, thinnest at the rim and thickest at the tread, and strengthened inside by a tubular body of fabric, also of increased thickness at the tread. Within the tire, enclosed in walls of fabric, are two spaces (*B B*) having a filling of sponge rubber. The remaining space is filled by the air tube (*C C*). In addition, the tread portion of the tire has embedded in it an annular flat metallic strip (*A*), lying between the two layers of fabric above mentioned. The use of the metallic plate is to prevent punctures through the tread, and that of the sponge rubber bodies is to protect the air tube from side punctures. In the manufacture of the tire, it is built up and vulcanized so as to form, in effect, a single body, the several layers of fabric and rubber being united to each other and enclosing the metallic strip during the process of vulcanization. The fillings of sponge rubber, however, are inserted in a half cured condition, as otherwise such rubber might not become sufficiently vulcanized during the operation of vulcanizing the remainder of the tire. This tire is patented [No. 709,280] and is marketed in sizes for automobiles by the Tennant Auto-Tire Co., Springfield, Ohio.

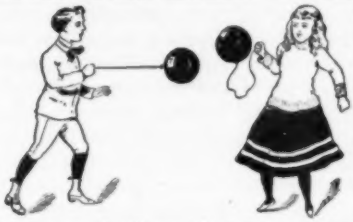
THE "OLD SALT" BOOT.

IT is a well known fact that the salt water fisherman is a constant user of rubber boots, and is somewhat of a crank withal in his requirements. For example, he wants a boot made on a straight last; that is, he has no use for rights and lefts, and in this he is correct, for he can make a pair last longer by changing one for the other. He also wants an exceedingly durable boot and one compounded to resist the action of salt water. The "Old Salt" boot has been made to fit exactly these wants. Instead of having a heavy felt lining which gets sodden with perspiration and is almost impossible to dry, this boot has a lining of knit wool, which is dryer, warmer, and lighter in

the leg, and much more cleanly. [The Beacon Falls Rubber Shoe Co., Beacon Falls, Conn.]

"AGNOTA" VEST POCKET PUNCHING BAG.

ALTHOUGH designed at first as a toy, this has proved to be an efficient little exerciser. It consists of a light but strong rubber bag, that may be inflated up to say 8 inches in diameter. To this is attached a strong rubber cord with finger loops of braided tape at the other end. When it is desired to use the exerciser, the bag is blown up, the free end of the cord grasped in the hand, and a blow given to the bag which carries it away to the limit of the elastic cord, when it bounces back toward the operator, who continues punching it. There is room for considerable skill in successfully punching the elusive ball, and in acquiring that skill one not only becomes alert and accurate, but at the same time the muscles are well developed. When not in use the whole outfit weighs less than 2 ounces, and it is small enough to carry in the vest pocket. It is protected by patents. The retail price is 25 cents. [The M. Lindsay Rubber Co., No. 298 Broadway, New York.]



FOR BRANDING SHEET PACKINGS.

INQUIRY has often come to the office of THE INDIA RUBBER WORLD for the name of a manufacturer who produces a rotary rubber stamp large enough to brand distinctly and continuously sheet packings and other goods made of rubber and fabric. The illustration here shown is of a printing wheel, manufactured for just this purpose, and to-day widely in use. As will be seen, the wheel has a roller attachment connected with it upon which is a pad, inking the rubber die as it revolves. A rubber manufacturer who desires such a tool has simply to make a wood cut of the proper size, showing his trade mark. From this the manufacturer of the printing roller makes a rubber die, which is firmly attached to the wheel and the job is completed. Accompanying the electrotype sent by the maker of this roller is a fac-simile of the work done by one of his tools in the factory of the Republic Rubber Co., of Youngstown, Ohio, which is shown herewith, as a specimen of what can be done by this means, the stamp measuring 5×11½ inches. [James H. Matthews & Co., Inc., Pittsburgh, Pennsylvania.]

THE Standard Rubber and Oilcloth Co. (Campello, Mass.) have resumed operations.

RUBBER NOTES FROM EUROPE.

GERMANY.

THE rubber goods factory of Graff & Co. at Solln (Munich) has been purchased by the Hannoversche Actien-Gummiwaaren-Fabrik, of Linden-Hanover, who undertook its operation on August 1. The object is both to relieve the Linden factory and to provide means for the prompter supplying of customers in south Germany and Switzerland. The management of the branch will be in the hands of two capable men from Linden, and the products will be the same, in both mechanical and surgical goods.

=The press of Berlin has been urging the United Berlin Omnibus Co. to equip their vehicles with rubber tires, since not even the fact that very many of the streets are paved with asphalt renders riding in the omnibuses an unmixed pleasure.

=The death is reported, at Berlin, on July 24, of Herr Carl Schwanitz, founder and manager of the firm Carl Schwanitz, Gummiwerk, Müllerstrasse 179 B, in Berlin. The funeral was largely attended by members of the trade.

AUSTRIA.

MESSRS. ADOLF PRINZHORN and Sigmund Seligmann, of the Continental Caoutchouc- und Guttapercha-Compagnie (Hanover, Germany) having resigned from the board of the Oesterreichisch-Amerikanische Gummi-Fabrik-A. G. (Vienna), Dr. Julius Caspar has been chosen in their stead.

GREAT BRITAIN.

THE Northwestern Rubber Co., Limited, reclaimers of rubber, owing to the increase of their business, have been compelled to remove their offices from 51, North John street, Liverpool, to their works, Litherland, Liverpool, dating from August 1.

GRANT TIRE PATENT VALID IN FRANCE.

THE validity of the Grant patent on solid rubber vehicle tires has now been definitely established in France. The first decision relative to this case was rendered on November 22, 1901, in the third chamber of the Palais de Justice, in Paris, in *re* The Rubber Wheel Tire Co. *v.* Loubiere, the latter being a manufacturer at 62, rue Desrenaudes—an action for alleged infringement of the French patent No. 252,731, issued April 10, 1896, the same relating to what is known in America as the "Kelly-Springfield" tire. The decision was in favor of the plaintiff, embodying the principle that, while each of the parts and processes employed by The Rubber Tire Wheel Co. in the construction of their tire might already have become public property, yet "a novel combination of known means is patentable, provided that the article produced by the combination is of industrial utility." [See THE INDIA RUBBER WORLD, January 1, 1902—page 109]. Loubiere appealed from this decision, leading to a hearing before the court of appeals, fourth chamber, where, on July 3, the former judgment was affirmed, the appellant being sentenced to pay the costs of the action.

WITH regard to the yield of rubber, there seems to be a great variety of ideas. One told of tapping fourteen wild trees, 10 inches in diameter, and getting only a watery fluid, and no rubber. While another tapped eighty wild trees of the same size and got 150 pounds of rubber. A conservative estimate covering all trees on a good plantation was given me as about four ounces for each six year old tree, increasing up to the tenth year, when about a pound would be produced. This is less than many claim and than some are getting, but even this would show a good profit.—*Letter from Mexico.*

THE RUBBER TRADE IN AKRON.

BY A RESIDENT CORRESPONDENT.

TO THE EDITOR OF THE INDIA RUBBER WORLD: The increased use of automobiles has resulted in the rubber companies placing the best talent at their command at work in an effort to develop the best tires possible to be made. Every manufacturer wants to place on the market a tire just a little better than the other fellow, and the result is that the past summer has seen several improvements over the tires formerly manufactured. There is a keen rivalry between the manufacturers of automobile tires, and the manufacturers are spending much money in calling the attention of the automobiling public to their products. The recent across-the-continent trips of Dr. H. N. Jackson and Tom Fetch have demonstrated that Akron tires are well made, and now the makers of these particular tires are busy engaged in exploiting the feats of their particular champions. The demand for tires of all kinds continues brisk, and the business in this line done by the rubber manufacturers has far exceeded their most sanguine hopes. In fact, the demand for tires has resulted in a summer season without the usual accompanying slack period, an unprecedented occurrence in the Akron trade. The manager of the shipping department of one company, which makes a large portion of the tires used in this country, states that his department has been so busy it has been impossible for him to enjoy his annual vacation, and men in like positions in other factories have had a similar experience.

* * *

THERE appears to be a tendency toward heavier automobile tires this year, and local manufacturers are recognizing that they must make their tires a little more substantial than in the past. There seems to have been a pretty general disposition among automobile manufacturers to equip their machines with tires which were too light for the weight of the machine. Local tire manufacturers are increasing the weight of all their automobile tires this season, from those intended for the big touring and racing cars to the little runabouts. They have succeeded in doing this without destroying the resiliency of the tires, but before this was done a great many experiments were made. Most of the local manufacturers believe that the detachable tire is bound to be the favorite with automobile owners. They believe that the single tube tire is bound to be superseded by the detachable or "clincher," and that the time is not very far distant when a great majority of the automobiles in use will be equipped with the detachable tire. The recent across-the-continent trips are cited as instances of the durability and convenience of this style of tire, and almost every manufacturer has a hundred reasons at his tongue's end as to why the detachable is superior to the single tube tire.

* * *

LOCAL rubber manufacturers are taking more than a passing interest in the annual automobile endurance contest which will be run from New York to Cleveland under the auspices of the National Association of Automobile Manufacturers. It is realized that automobile tires will get a pretty thorough test, and all of the tire manufacturers in this city will see that their tires are in the test. The announcement of Secretary Harry Unwin, of the National Association, that the roads from Cleveland to New York are in very bad shape for automobiling, being rough and practically uncared for, makes it positive that the test will be calculated to show the merits of the various tires on the market, and Akron manufacturers are anxious to establish a reputation for their goods along this line. The contest will also furnish a chance for a comparison of the tires in use at present with those used in the contest of a year ago. Doubtless it will be found that the improvements will consist largely in the increased use of the detachable tire, heavier goods, and superior compounds calculated to prevent the rubber from separating from the fabric in case of slipping.

* * *

THE Akron rubber men held a clambake at Blue Pond park on August 8, and it was one of the most enjoyable outings ever given by Akron men interested in this business. The outing was arranged by Mr. A. C. Squires and was under his personal direction. In addition to the clambake there was a program of sports which took up the greater part of the afternoon and furnished much amusement. There was a cricket match between two teams composed of rubber men, and a wrestling match. Music was furnished by the Goodrich band.

One of the biggest picnics of the season was that of the employés of The B. F. Goodrich and American Hard Rubber companies, on July 25, at Silver Lake. These two companies make it a point to see that their employés have a good time at their annual picnics, and in addition to furnishing prizes for the different sporting events, give their employés tickets to the grounds, as well as street car tickets. Over 10,000 people were in attendance at Silver Lake park, and the various sporting events were thoroughly enjoyed. In the forenoon a game of ball was played, resulting in a victory for the Goodrich team. In the evening the big pavilion was filled with a merry crowd of dancers until a late hour.

Second only in size was the picnic which the Diamond Rubber Co. gave their employés at the same park on August 1. This outing was attended by about 4000 people and the afternoon was spent in games and sports. The feature of the day was the contest for queen of the picnic. Miss Mary Coppard, who has charge of the telephone exchange at the plant of the company, was the successful contestant and received a diamond ring. The Diamond company also furnished their employés with transportation and admission to the grounds.

* * *

AKRON rubber manufacturers will be well represented at the big carriage shows the coming fall. The Goodrich, Diamond, Goodyear, and Firestone companies have secured space at the Boston show, which opens September 1, and some of the companies will be represented also at Philadelphia and Cincinnati.

The rubber belting business continues to be very good. The demand for rubber belts has never been exceeded, and even during the slack season the rubber companies which make a specialty of this class of goods were kept busy supplying orders.

L. E. Housley and E. L. Rettig, of the Boston branch of The Diamond Rubber Co., have been in Akron for several days buying goods for the establishment of a rubber store in Seattle, Washington. They will deal in mechanicals, tires, and a general line of rubber goods.

Mr. W. B. Miller, secretary of The Diamond Rubber Co., has returned home from an eastern business trip. Mr. A. H. Noah, treasurer of the company, has also returned from a two weeks' outing at Star Island.

For the first time since their organization The B. F. Goodrich Co. have had an employé arrested for petit larceny. William Thompson is the man who developed too great an appreciation of the products of the company, and after pleading guilty to the charge he was fined by Mayor Kempel. Thompson's room near the plant was searched by detectives after he had been suspected of taking the goods, and enough was found to stock a small rubber store. He could have been charged with grand larceny, but the company did not care to punish him further.

The annual meeting of the Firestone Tire and Rubber Co. was held Saturday, August 15, resulting in the reëlection of the board and officers, as follows: Directors: H. S. Firestone and Will Christy of Akron; F. O. Sawyer, St. Louis; Amos B. Miller, Chicago; and Dr. L. E. Sisler, Akron. Officers: H. S. Firestone, president; Will Christy, vice president; Dr. L. E. Sisler, secretary and treasurer.

Richard Ward, of Akron, has accepted a position with the Rubber Specialty Co. (New Brunswick, N. J.) and left for that place on August 18. Mrs. Ward is a well known musician of this city and for the past year has sung in a number of the New York churches.

Messrs. H. S. Firestone, president of the Firestone company, and F. O. Sawyer of St. Louis, a stockholder in the company, were in New York recently, where they went to superintend the fitting of a big truck with eight inch tires made by the company, and which are said to be the largest solid rubber tires ever turned out.

THE RUBBER TRADE IN TRENTON.

BY A RESIDENT CORRESPONDENT.

TO THE EDITOR OF THE INDIA RUBBER WORLD: The Dyson Rubber Co., of Trenton, was incorporated under New Jersey laws on August 11, with $25,000 capital authorized, to make matting and other molded goods of rubber. The incorporators are George S. Dyson, late of the Dyson & Lawshe Rubber Co. (Trenton), Ellen Dyson, and Randolph M. Drake, late of R. M. Drake & Co., brick makers. A substantial brick building has been leased from Mr. Drake, at May and Beakes streets, and rubber machinery is being installed with a view to beginning work in October. Mr. Dyson is a practical rubber man of several years experience.

The retirement of Mr. Dyson from the Dyson & Lawshe Rubber Co., of which he was vice president, will make a reorganization necessary. John J. Cook is president and J. M. Lawshe secretary, treasurer, and general manager. The company was incorporated in 1902 to make a line of molded goods in rubber and has had a good business, only lately installing a new press and making other improvements.

Mr. W. Holt Apgar, president of the Reliance Rubber Manufacturing Co., is grand master of the Grand Lodge of the State of New Jersey, and took part in the Masonic ceremonies at the laying of the corner stone of the Union County courthouse, at Elizabeth, on July 30, and of the new city hall at Newark on August 5. Mr. Apgar presided at the annual banquet of the Grand Lodge at Pleasure Bay, on August 6.

The New Jersey Rubber Co., at Lambertville, have greatly increased the efficiency of their reclaiming plant. Machinery has been installed for a new process, whereby the company claim to be able to produce the cleanest reclaimed rubber on the market. There have also been added a Bates-Corliss engine and a 500 HP. Cookson improved feed water heater, purifier, filter, and oil separator. The storehouse, a brick structure 81×45 feet, has been raised from one story to three, and the first story provided with a granolithic floor. The two upper floors are used for storing raw material. The Hon. P. V. Voorhees, president of the company, has spent the summer at Poland Springs, Maine, and Mr. Edward R. Solliday, vice president, at Asbury Park, New Jersey.

Mr. John S. Broughton, general manager of the United and Globe Rubber Manufacturing Cos., and a leading member of the Country Club, is an enthusiastic automobilist and drives a speedy machine.

THE TEXTILE GOODS MARKET.

THIS is a vital period in the textile trade, and there is therefore considerable interest shown in the market for both raw material and finished goods. The cotton year closed with August 31, and the cotton grower as well as the manufacturer is looking, as it were, both ways. That is, he is indulging in retrospective glances and anticipations of the future. Since the last issue of THE INDIA RUBBER WORLD the market for cotton has not undergone any radical change, the manipulators having continued their speculative tactics through the entire month, and conditions are about as the conservative manufacturer expected they would be at the close of the cotton year. The price of spot cotton is 3¾ cents higher than it was a year ago this date, and while there is nothing very definite as yet to base calculations on, the cost of the new crop cotton is expected to come within the range of 10½ @ 11½ cents. At this writing a considerable quantity is being bought in the South at the latter quotation, while some mills are paying 12 cents. It has been a long time since the stock of cotton, either in the South or elsewhere in this country, has been so thoroughly cleaned up as now. It stands to reason, therefore, that there will be a general stampede for cotton as soon as the new crop is marketed, and that full prices will be paid. Heavy rains and lack of sunshine for the past few weeks have retarded the growth of the crop over a large part of the central and eastern cotton districts, while in other sections too much stalk, excessive shedding, and rust are reported. The plant, however, is generally fruited throughout the belt. In some parts of Texas the boll weevil is doing much damage. A little picking has been done throughout the southern portions of the belt, but this work is not general as yet. In view of the strong statistical position together with the hazardous conditions of the coming three months through which the new crop will have to be carried before a reasonably safe estimate as to the yield of 1903-1904 can be made, there is no good reason for the price to be as low as it was in the fall of 1902. On the other hand, there is ample cause, as now shown, why the prices during the coming cotton season should range higher.

The following table gives the price of cotton middling upland spots at the ports of New York, New Orleans, and Liverpool:

	New York.	New Orleans.	Liverpool.
August 6	12¾ cents	12¾ cents	6.62*d*
August 13	12¾ cents	12⅝ cents	6.84*d*
August 20	12¾ cents	12⅝ cents	6.70*d*
August 27	12¾ cents	12½ cents	6.80*d*

The curtailment begun by manufacturers of cotton duck and sheeting several weeks ago has been carried on in all parts of the country, so that probably never before has there been such a restricted output of finished cloth because of the high cost and scarcity of cotton. Speculators have been reporting sales of cotton to spinners, but as the mills are using very little material, there is reason to question the accuracy of this announcement. In every instance the manufacturers have given as the reason for such curtailment that they were not warranted in paying the high price for cotton with the goods market on its present basis, and consumers determined not to pay more. The basis of prices on which the mills estimate that they can make a reasonable profit is such that raw cotton must be purchased at 10 @ 11½cents, which would keep goods at a parity with the staple.

The consumption of textiles by the rubber trade during the past year surpasses that of any previous twelve months. A year ago the rubber manufacturers placed heavier orders than ever before, and they have had use for every pound of duck contracted for. Few of the mills, have had enough raw cotton

to carry them through to the end of the season, and have been compelled to buy new supplies for which the highest price has been paid. It therefore proves that the rubber people were wise in making yearly contracts. Cotton duck mills cannot run on full time for the reason that they are not able to get the cotton, and are therefore working about four days per week. It would require some of them to work assiduously until the first of the new year to complete their contracts.

In a couple of instances during the past month manufacturers have paid an advance of 7 cents over contract prices for sufficient quantities to carry them through the season. In all probability these manufacturers will see the advisability of making a yearly contract this season. Ordinarily, these contracts have been made at about this time of the year, although some of the duck mills make their contracts on the first of the year. But rubber manufacturers who have been accustomed to making their contracts for duck on September 1 have not made any overtures in that direction yet. Nor are the duck mills anxious to quote prices for the coming year at this time. Both the producers and the consumers of ducks and sheetings are of the opinion that more satisfactory arrangements can be made by delaying this matter for a fortnight or even a month. The next government report on the cotton crop will go a great way in furnishing a basis upon which new prices for cloth can be made, even though implicit confidence is not placed on the report. As near as can be ascertained, however, it is believed that the new price basis will be at least 5 cents in advance of the old one, and there will be some rubber manufacturers who will, as heretofore, continue to buy their duck in a hand to mouth way, even though it does cost them a few cents a pound more than the contract price.

The air brake manufacturers have been calling for duck in unusually good quantities, and the bulk of their takings for the year has never before been equalled. Some of these concerns have been so crowded with orders for goods that they have sublet their contracts to other brake manufacturers. The stitched belting concerns also have had a good season, so far as demand goes, and have been heavy consumers of duck, but there is no doubt that these manufacturers have had a difficult time in getting a new dollar for an old one this season. The prices for which they have been compelled to part with their product has been on too low a basis to permit of their making any money, and they are heartily glad that the season is at an end. What will be done in the way of new prices for the coming season, is as yet a matter of conjecture, but the price of stitched canvas belting will be higher. An effort has been made several times of late to get the various stitched belting manufacturers together for the purpose of arranging a price basis for the new season, but without success. The smaller ones have been anxious to know what the one large corporation is going to do before taking any steps in the direction of making new prices. But the concern in question which produces perhaps 75 per cent. of this class of goods, has thus far ignored its competitors, and each faction is seemingly waiting for the other. It is believed, however, that before another month the prices for which stitched belting will be sold will have been fixed, and a radical advance over old prices will be the result. Below are the prices for which textiles consumed by rubber manufacturers are selling to-day:

PRICES CURRENT FOR SHEETINGS FOR THE RUBBER TRADE.

	Pick.	Yds. to Lb.	
36″ Household Favorite,	56x60,	4.00	5⅛ cents.
40″ Household Favorite,	56x60,	3 60	6 cents.
36″ Henrietta, L. L.,	48x52,	4.00	5¼ cents.
39″ Henrietta,	68x72,	4.75 (net)	5 cents.
38½″ Henrietta,	64x64,	5.15	4⅛ cents.
40″ Henrietta,	48x40,	2.85 (part waste)	6¼ cents.
36″ Florence C.,	44x44,	6.15	4 cents.
36″ American L.,	64x64,	5.00 (net)	4¾ cents.
40″ Majestic C. C.,	48x48,	2.50	7¾ cents.
40″ Majestic B B. B.,	do	2.70	6⅞ cents.
40″ Majestic B. B.,	do	2.85	6½ cents.
40″ Elcaney,	do	3.60	5¾ cents.
36″ India,	do	3 00	5¾ cents.

Sheetings.			
40″ Highgate	5¾c.	40″ Selkirk	7¼c.
40″ Hightown	6¼c.	40″ Sellew	7½c.
40″ Hobart	6½c.	48″ Mohawk	10 c.
40″ Kingstons	7½c.	40″ Marcus	5 c.
39″ Stonyhurst	5¼c.	40″ Mallory	5 c.
39″ Sorosis	5 c.	36″ Capstans	4 c.
40″ Seefeld	7½c.	*Osnaburgs.*	
		40″ Iroquois	8½c.

Ducks.	
40″ Shamrock	8½c.
40″ 7 oz. Cranford.	8 c.
40″ 8 oz. Chartres	8½c.
40″ 10 oz. Carew.	10½c.
40″ 11 oz. Carita.	11¼c.

ADDITIONAL TRADE NOTES.

[REGULAR DEPARTMENT ON PAGE 433.]

THE New Century Rubber Co. (Philadelphia), manufacturers of reclaimed rubber, with works at East Burlington, N. J., were adjudged insolvent in a decree entered in the New Jersey court of chancery, on August 22, and Norman Grey, an attorney of Camden, N. J., was appointed temporary receiver.

=One hundred shares each of common and preferred stock of the American Chicle Co., offered at auction in New York on August 26, by order of the executors of an estate, were sold at 97 and 80, respectively.

=The H. F. Taintor Manufacturing Co., who are engaged so largely in supplying whiting and paris white to the rubber industry, have removed from the location so long occupied by their offices, in Beekman street, to No. 200 Water street, corner of Fulton, New York.

=The West Coast Rubber Co. (San Francisco, California, have recently manufactured some solid rubber tires. George Fredericks is president of the company and H. W. Goodall vice president.

=It is reported that Morgan & Wright (Chicago), under the management of Charles J. Butler, will enter the market with a line of single tube tires.

=The eighteenth regular quarterly dividend of 1¼ per cent. on the preferred shares of the Rubber Goods Manufacturing Co. will be payable on September 15 to holders of record on September 5, calling for a disbursement of $140,899.50.

POPE MANUFACTURING CO.

HOLDERS of certificates issued by the reorganization committee of the American Bicycle Co., for debentures and shares deposited with the committee under the agreement dated December 15, 1902, were notified during the month that on and after August 25 the same could be exchanged for the securities of the Pope Manufacturing Co., by which name the business is now known.==A decree was issued in the United States circuit court at Trenton on July 29, providing for the discharge of the receivers of the American Cycle Manufacturing Co., and permitting the company to transact business in its own name. The company is one of those constituting the American Bicycle Co., lately succeeded by the new Pope Manufacturing Co., and the shares are held by the latter corporation. Certain other formalities require attention before the Pope Manufacturing Co. can formally replace this branch corporation, though the name of the Pope company is being signed to papers affecting the American Bicycle Co.==The plants of the American Bicycle Co. in Connecticut not previously disposed of were sold at auction on August 11. The Pope Manufacturing Co. bought the old Lozier plant at Thompsonville for $15,000. The old Hartford Cycle Co. plant went to a typewriter concern for $150,000.

NEWS OF THE AMERICAN RUBBER TRADE.

HARTFORD RUBBER WORKS CO.

THE annual conference of the officers, branch managers, and traveling representatives of this company has now become a much appreciated fixture in the policy of the company. It occurred this year during the first week in August, at the company's offices, in Hartford, Connecticut, and the program included a pleasant day's outing on August 6. The branch managers in attendance were—

New York—R. P. Parker.	Detroit—E. E. McMaster.
New York—uptown—E. S. Roe.	Chicago—S. E. Gillard.
Boston—E. R. Benson.	Minneapolis—W. C. Dawdy.
Philadelphia—C. E. Fay.	Denver—H. E. Field.
Buffalo—James How.	San Francisco—M. J. Tansey.
Cleveland—J. B. Kavanaugh.	Atlanta—S. E. Finley.

Fifteen traveling salesmen were present, representing territories extending from New England to Kansas, and as far south as Georgia.

FIRESTONE RUBBER FACTORY (AKRON, OHIO.)

THE Firestone tire, with its successful side wire fastening, and its triumphs at home and abroad, have all been faithfully chronicled in THE INDIA RUBBER WORLD. A presentment of the plant where the tires are made, however, has never before been given in these pages. The factory of the Firestone Tire and Rubber Co.—which by the way is the largest in the world devoted exclusively to the manufacture of solid tires—is of brick, two stories in height, and of modern substantial mill construction. The power plant consists of a 200 HP. Buckeye engine, two 200 HP. Biggs boilers, and the usual accessories in the way of fire pumps, dynamo for electric lighting, etc. The rubber machinery comprises one washer, four mixers, one calender, four large vulcanizers, tubing machines, wire machines, and a variety of special machines and tools created for this especial business. Mr. H. S. Firestone, the inventor of the tire that bears his name, manages the factory personally, having an efficient assistant in Mr. S. G. Carkhuff.

FIRESTONE TIRE AND RUBBER CO.'S FACTORY.

THE REPUBLIC RUBBER CO. (YOUNGSTOWN, OHIO.)

JOHN TOD has resigned as treasurer of this company, to take effect on September 1, but will retain his interest and continue on the board of directors and as secretary of the corporation. The active management is assumed by Warner Arms, who succeeded Henry K. Wick as president some months ago.

STOLEN RUBBER RECOVERED.

THE truck load of crude rubber, shipped by the New York Commercial Co. to an out-of-town customer, and lost sight of before leaving the city, as reported in the last INDIA RUBBER WORLD, was recovered within a few days. One Hiram Mandel, a man with an unsavory record, was arrested by the New York police on suspicion, when a confession was extorted from him which led to the recovery of the rubber in a junk shop, where, the detectives say, the rubber was not known to be stolen goods. The value of the rubber was about $6500.

AMERICAN RUBBER CO. (BOSTON).

SWORN statement filed with the Massachusetts commissioner of corporations—accounts presented at the annual meeting July 6, 1903:

ASSETS.		LIABILITIES.	
Land	$ 37,287.00	Capital stock	$1,000,000.00
Buildings	148,617.25	Debts	17 014.63
Machinery	136,927,22	Balance profit and loss	436,117 43
Special	800,000.00	Reserve for depreciation	865,734.01
Cash and debts receivable	839,780.92	Dividends unpaid	40,000.00
Manufactures and stock in progress	1,174,253.68	Special	800,000.00
Miscellaneous	22,000.00		
Total	$3,158,866.07	Total	$3,158,866.07

Shareholders: United States Rubber Co., 9882; Samuel P. Colt, 20; William R. Dupee, 24; Harry E. Converse, 24; Lester Leland, 20; Costello C. Converse, 30; total, 10,000.

MR. CONVERSE'S BIRTHDAY.

A FAMILY reunion at the home of the Hon. Elisha S. Converse, Malden, Massachusetts, celebrated his eighty-third birthday, on July 28. The party included Mr. Converse's sister, Mrs. Emeline Williams, now nearly 87 years old, the two being all that are left of a large family of brothers and sisters. There were many callers at the house during the day to make inquiries regarding Mr. Converse's health, which has been better this summer than for some months previous, and to leave congratulations or mementoes. Mr. Converse was the first mayor of Malden and in many ways has contributed to the general welfare of the community, apart from the benefits arising from the location there of the Boston Rubber Shoe Co., of which he was the founder.

THE MARION INSULATED WIRE AND RUBBER CO.

IN regard to this new company, at Marion, Indiana, previously mentioned in these pages in our issue of June 1, 1903 (page 320) THE INDIA RUBBER WORLD is informed: "We now have all our factory buildings well under way, and if there are no unforeseen delays will complete the same by September 10 to 20. We have contracted for a considerable part of our machinery and anticipate little delay in getting the same after we are ready to receive it."

OUTING OF THE TYER RUBBER CO.'S EMPLOYES.

THE annual picnic of the employés of the Tyer Rubber Co. (Andover, Massachusetts) was held at Revere Beach, on Saturday, August 1, about 400 being present. Special electric cars were taken from the factory at Andover direct to the beach, and after an interesting two hours trolley ride, the day was spent enjoying the sights which make this resort so attractive. A basket lunch was served at noon and late in the afternoon

the cars were again taken to Andover, where all arrived safely, making the day a most pleasant one to remember. Superintendent McTernen had charge of the arrangements, and was assisted in carrying out the plans by a very generous contribution from the company.

CHARLES E. FARRINGTON.

CHARLES E. FARRINGTON, of the Massachusetts Chemical Co. (Boston), is a chemist and engineer of natural ability and scientific training. He was born in Dover, Massachusetts, 34 years ago, "on the farm," but through the removal of his parents was educated in Boston schools. He developed a mechanical tendency in boyhood and after the close of his school opportunities devoted his leisure entirely to the study of mechanical and hydraulic engineering and to applied chemistry. He became connected with the Massachusetts Chemical Co. in 1892, and since has been an important factor in the growth of that business. In addition to the business of the Massachusetts Chemical Co., Mr. Farrington acts as consulting engineer for many manufacturing concerns, in both Europe and America. He is recognized among electricians as an expert on the chemistry of electrical insulation, in the study of which he was a pioneer. His recent lecture on a phase of that subject before the Franklin Institute attracted a great deal of favorable criticism. He is a member of the Society of Arts, the American Chemical Society, and other scientific bodies. It is well known among American rubber men that for several years Mr. Farrington's studies have been directed particularly to problems connected with the rubber trade, with results which have been quite important.

VICTOR RUBBER CO. CHANGES.

MR. ALBERT T. HOLT, superintendent of the Victor Rubber Co. (Springfield, Ohio), has resigned his position. In connection with this it is interesting to note that several men connected with the Victor Rubber Tire Co., which sells the tires manufactured by the Victor Rubber Co., have also tendered their resignations. They are Samuel Siddal, sales manager; C. E. Bradish, Chicago manager; and J. S. Webb, New York manager. With regard to the last named gentleman an interesting happening is reported. It seems that the Victor Rubber Tire Co. have offices at Broadway and Fifty-seventh street, which, after the resignation of Mr. Webb, were placed in charge of Herbert C. Comstock. Although Webb had sent in his resignation the board of directors had not acted upon it, Comstock being the appointee of the president of the company. Webb therefore declined to leave the office until he had completed his inventory and his books were audited and found to be correct. Mr. Comstock insisted upon his leaving, and upon his refusal had him arrested and taken to the station house. After hearing the evidence the magistrate dismissed the complaint, saying that he would not attempt to decide who was legally in charge of the company's office.

NEW YORK STOCK EXCHANGE TRANSACTIONS.

UNITED States Rubber Co.

DATES.	COMMON.			PREFERRED.		
	Sales.	High.	Low.	Sales.	High.	Low.
Week ending July 25	4,700	12	9	5,535	48	31
Week ending Aug. 1	4,579	11½	7	8,905	39½	30¼
Week ending Aug. 8	1,780	10	8¾	2,410	35	34
Week ending Aug. 15	1,290	12	9	1,400	37	32⅛
Week ending Aug. 22	2,300	13	11	1,270	40	39

RUBBER Goods Manufacturing Co.

DATES.	COMMON.			PREFERRED.		
	Sales.	High.	Low.	Sales.	High	Low.
Week ending July 25	23,075	21	12	5,238	75	60
Week ending Aug. 1	26,330	16	12¼	5,378	68	63⅛
Week ending Aug. 8	4,750	13⅞	12¾	850	65¾	62
Week ending Aug. 15	6,350	15¾	12¾	1,100	73	65
Week ending Aug. 22	3,400	15¼	14	300	70	69¼

"THE ORIGINAL RUBBER MAN."

THE subject of this sketch was born in the original rubber factory, which is situated in Roxbury, Massachusetts. Like his human prototype he is fearfully and wonderfully made, his body of belting and matting, legs of joint packing, arms of cotton hose, and other ingenious structural details. To be appreciated he should be seen, which can be easily done by turning to the advertisement in this issue, of the Boston Belting Co., who will be glad to send a copy of their hanger, "The Original Rubber Man," in colors, to any one requesting it.

VULCANIZED RUBBER CO.'S NEW FACTORY.

THE Vulcanized Rubber Co. expects to get their new factory (at Morrisville, Pa.) in operation about September 1. The corner stone laying of this factory was chronicled in THE INDIA RUBBER WORLD last November, but there have been unavoidable delays in completing the building and installing the machinery. When everything is complete the company will put into commission one of the best built and equipped hard rubber manufacturing plants in existence. The combined boiler capacity is 600 HP., with furnaces operated by forced draught and supplied with patent grates. Brick coal bunkers have been built alongside the boilers and the coal is dumped directly into these from the cars on the company's trestle, this being a part of the arrangement for economy of time and labor that is characteristic of the whole factory.

Most of the machines are driven by specially wound independent motors and the rest are arranged in small groups, each group being driven by a separate motor which drives the shafting by means of a patent noiseless chain gear. These chains are one of the features of the installation, taking the place of all motor and engine belts and gears. The main shaft carrying the heavy rolls is driven by the largest chain drive in existence, being capable of transmitting 200 HP. and connects the engine directly to the shaft, taking the place of the usual noisy gears.

The offices are handsomely finished in natural woods, done in oil. The grounds have been neatly enclosed and will be made into handsome lawns. When the new plant is in operation the old buildings will be abandoned and, with the exception of the brick building, which is the original Morrisville rubber mill will be removed.

The engine room equipment consists of three 240 volt electric generators, two of which are driven by steam turbines and the other by a reciprocating engine (these can be operated together or independent as may be necessary); a 1000 gallon Underwriters fire pump, a 150 HP. Corliss engine for driving the rolls, and another 150 HP. engine for reserve. All exhaust

steam is utilized and all condensation is automatically returned to the boilers. The electric installation is controlled from a switch board located in the engine room.

The buildings are protected by automatic sprinklers, and outside fire plugs supplied by water from the town and the above mentioned pump, taking its water from a basin about 300×125 feet and from 6 to 8 feet deep, which is practically inexhaustible. The employés will be drilled periodically in handling this apparatus. An electric watchman's clock has also been installed. All departments can communicate with each other or the office by means of telephones.

By a complete system of electrically driven fans and piping, the dust from every machine will be automatically collected and deposited in long cloth tubes, thus utilizing the waste and keeping the air clear. The heating will be by means of air heated in coiled pipes by exhaust steam from the engines, and then driven in pipes through the buildings by means of huge fans Every department has its own toilet and wash rooms. All the machinery has the latest safety appliances and in all ways the comfort of the employés is provided for.

RUBBER WORKERS' UNIONS.

LOCAL No. 4, Amalgamated Rubber Workers' Union of America (Trenton, New Jersey).—James O'Donovan, recording and corresponding secretary, has been elected financial secretary of the Central Labor Union. Harry Archer represents the Local in the general committee of the Central Labor Union arranging for the Labor Day celebration on September 7.

BANKRUPTCY SCHEDULES OF DRESSER & CO.

SCHEDULES in bankruptcy of Dresser & Co., commission merchants in hosiery, silk, and elastic webbing, Nos. 15-17 Greene street, New York, were filed on August 14. The firm liabilities are $1,206,481, of which $488,582 are secured, and the nominal assets $1,456,160. There are accounts of $949,623, of which $685,000 are doubtful and estimated worth $18,000. The stocks include 247 shares of the Narraganset Web Co. Individual liabilities of D. Le Roy Dresser are $472,815, and assets $72,000 in stocks, including 1000 shares of American Webbing and Tubing Co. Individual liabilities of Charles E. Riess, the other partner, are $135,607, with assets of $33 437. Among the unsecured firm creditors are the American Tubing and Webbing Co., for $100,163. The firm's creditors have not yet agreed upon the choice of a receiver, but are expected to do so at their next meeting, on September 22.

NEW INCORPORATION.

CONTINENTAL Rubber Works (Erie, Pa.), under Pennsylvania laws, capital, $200,000. Directors: C. E. Miley, New Haven, Conn.; Alexander Jarecki, Frederick C. Jarecki, H. T. Jarecki, Robert Jarecki, O. E. Becker, E. A. Becker, Charles F. V. Kelly, and Theron R. Palmer. The names of the officers and other details regarding this company appeared in THE INDIA RUBBER WORLD last month.

TRADE NEWS NOTES.

THE Philadelphia office of The Diamond Rubber Co. (Akron, Ohio) has been removed to Nos. 304-306 North Broad street.

=The Boston Rubber Shoe Co., on account of the large number of orders, omitted the customary August shutdown this year. The capacity of their two factories is now 332,000 pairs of boots and shoes daily.

=The Plymouth Rubber Co., proofers for the trade and manufacturers of rubber mold work, have broken ground for an addition to their factory (Stoughton, Massachusetts), 60×40 feet, for the use of their rubber heel department. They are also erecting a smoke stack 120 feet high and 6 feet in diameter.

=W. R. Blowers, formerly superintendent of the United and Globe Rubber Manufacturing Cos. (Trenton, N. J.), has accepted a position with the Pennsylvania Rubber Co., and will take the superintendency of their works at Jeannette, Pennsylvania.

=The damage done by fire on June 25 to the rubber factory at Nos. 397-401 Sumner avenue, Brooklyn, New York, though estimated at $20,000, has been well nigh repaired, the work of rebuilding having been pushed forward rapidly. The plant has long been known as that of the Brooklyn Rubber Co., which name is still retained by the proprietors, Rindskopf Brothers, though they also conduct business under the names Brooklyn Hard Rubber Co. and Brooklyn Shield Co.

=H. A. Palmer has resigned as secretary of the Pennsylvania Rubber Co. (Jeannette, Pa.) and terminated his connection with that company. While not advised as to what will be Mr. Palmer's next connection, THE INDIA RUBBER WORLD understands that he will be identified with the solid rubber tire business, as his five years experience precludes his leaving the field at this very interesting stage of the game.

=The Seamless Rubber Co. (New Haven, Conn.) have awarded a contract for an additional factory building, of brick, 30×95 feet, four stories high.

=Park Mathewson, for some time New York representative of the India Rubber Co. (Akron, Ohio), has become general representative of the International Automobile and Vehicle Tire Co, (Milltown, New Jersey), and assistant to General Manager J. C. Matlock.

=Six shares of Boston Belting Co. stock were reported sold at auction in Boston during the first week in August at 210, par value being $100.

=People in North Brookfield, Worcester county, Mass., are attempting to secure for that place the location of the proposed factory of the Randolph Rubber Manufacturing Co., the incorporation of which was reported in our last issue.

=Several hundred girls employed in the shoemaking department of the factory of L. Candee & Co. (New Haven, Conn.) went on strike on August 21, giving as their reason that they had been asked to do more work without an increase in pay. At last accounts no agreement had been reached between the company and the employés, who are not, by the way, connected with any labor union.

=The Grieb Rubber Co. (Trenton, New Jersey) have been licensed to manufacture and sell tennis, golf, and yachting soles made with the Foster patented "friction plug."

=The creditors of Lamkin & Foster, the Boston shoe jobbers whose embarrassment has been noted in these columns, have agreed to accept 50 per cent. of their claims in cash or 60 per cent. in notes, the business will be continued—probably under the same name, but as a corporation.

=At a sale of securities at auction in New York on August 26, $5000 in 6 per cent. first mortgage bonds of the Mechanical Rubber Co. brought $4750.

=At the coming annual convention of the American Street Railway Association, to be held in Saratoga on September 2-4, the Massachusetts Chemical Co. (Boston) are to be represented and are to give as a souvenir a handsome circular pitcher mat of their own design and manufacture.

=Mr. Eben H. Paine, manager of sales for the United States Rubber Co., Mr. Edward R. Rice, manager of branch stores, and Mr. George W. Perry arrived at home from a six weeks European trip on August 29.

=A correspondent estimates the amount of business done by three rubber heel concerns in the United States at $275,000 to $300,000 per year, and the business of the other smaller concerns must amount to a good deal in the aggregate.

REVIEW OF THE CRUDE RUBBER MARKET.

THE market has been only moderately active of late, but very firm, and an advance in prices is again to be noted, as compared with our last previous report. With regard to the further course of the market, opinion is divided, but there is not apparent any widespread expectation of an early material decline. The "statistical position," indeed, points strongly the other way, though this is not an infallible guide. The rate of consumption for more than a year has been equal to the world's total production, and the visible supply of rubber of all kinds is smaller than for years. But consumption is not a fixed quantity and the high prices now prevailing may reasonably be expected to result in time in a larger output of the raw material. Neither decreased requirements, however, nor larger receipts of rubber seem near at hand.

In the United States, the demand for rubber goods of every kind continues active, and the recent rate of expansion in this respect might come to a stop without by any means indicating a stagnation in industry. Labor troubles in certain quarters that were regarded with some apprehension appear to have passed without disturbing business; the liquidation in the stock market resulting from overcapitalization and excessive speculation seems to have crippled only the manipulators of the "deals"; and the proceeds of the heavy new crops will insure a good buying capacity for another season. For the present the only obstacle in sight to the continued activity of the rubber industry is the check that may come to the buying of its products if the cost of rubber—and of cotton—should continue to advance. The condition of the industry in Europe is favorable generally, with the help of exports to the non manufacturing countries, a field which the rubber trade in the United States has neglected owing to the pressure for goods in an enormous and profitable home market.

The high price of rubber may be expected to stimulate a larger production first in the Amazon states, where two favorable conditions may be noted: Partial recovery from the financial depression of Brazil, and a better state of affairs in the rich rubber districts on the Acre river. But any increase of output could hardly be realized for months to come, and factories supplied with orders must secure rubber now, regardless of price. With regard to other than Pará grades, there appears no promise of increased supplies from the existing sources, and new fields in Africa are developed more slowly than was the case a few years ago. For awhile the combined production of other grades exceeded that of Pará rubber, but for three years past the Pará output again has amounted to more than 50 per cent. of the whole, the African supply having become absolutely as well as relatively less.

Arrivals at Pará from July 1 to August 26 amounted to 2250 tons. The arrivals for the first two complete months of the preceding crop year were 2660 tons, and for July-August, 1901, there were 2550 tons—all inclusive of Caucho. July receipts at Manáos were 614 tons in 1903; 642 in 1902; and 755 in 1901. The Antwerp auctions on August 25 again resulted in an advance, although qualities ruled poor and buying for American account was light.

London prices on August 21: Pará old hard cure and new Bolivian, 4*s.* 2*d.* @ 4*s.* 2½*d.* [=$1.01⅓ @ $1.02⅓], August and September delivery. One lot Ceylon "Pará" sold at 4*s.* 6*d* [=$1.09½]. Sheet Balata unsorted, 2*s.* 5*d.* [=59 cents.] Liberal transactions in Balata reported lately.

Following is a statement of prices of Pará grades, one year ago, on January 1 last, and on August 29—the current date:

PARA.	Sep. 1, '02.	Jan. 1, '03.	Aug. 29.
Islands, fine, new	71@72	88@89	96@ 97
Islands, fine, old	75@76	91@92	100@101
Upriver, fine, new	75@76	90@91	99@100
Upriver, fine, old	78@79	95@96	101@102
Islands, coarse, new	47@48	60@61	59@60
Islands, coarse, old	@	@	@
Upriver, coarse, new	60@61	73@74	78@79
Upriver, coarse, old	62@63	@	@
Caucho (Peruvian) sheet	52@53	59@60	61@62
Caucho (Peruvian) ball	56@57	69@70	74@75

The market for other sorts in New York, in which there likewise is an advance to be noted this month, is as follows:

AFRICAN.		Ikelemba	85 @86
Sierra Leone, 1st quality	86 @87	Madagascar, pinky	82 @83
Massai, red	86 @87	CENTRALS.	
Benguella	70 @71	Esmeralda, sausage	73 @74
Cameroon ball	64 @65	Guayaquil, strip	64 @65
Gaboon flake	45 @46	Nicaragua, scrap	72 @73
Gaboon lump	48 @49	Panama, slab	56 @57
Niger paste	19 @20	Mexican, scrap	72 @73
Accra flake	25 @26	Mexican, slab	56 @57
Accra buttons	None here	Mangabeira, sheet	54 @55
Accra strips	None here	EAST INDIAN.	
Lopori ball, prime	84 @85	Assam	83 @84
Lopori strip, do	82 @83	Borneo	@

Late Pará cables quote:

	Per Kilo.		Per Kilo.
Islands, fine	6$100	Upriver, fine	6$750
Islands, coarse	3$300	Upriver, coarse	5$050

Exchange, 12 1/32*d.*

Last Manáos advices:

Upriver, fine	6$750/4$850	Upriver, coarse	4$850

Exchange, 12 1/32*d.*

NEW YORK RUBBER PRICES FOR JUNE (NEW RUBBER).

	1903.	1902.	1901.
Upriver, fine	89@93	70@72	87@90
Upriver, coarse	70@74	55@56	62@64
Islands, fine	85@89	68@70	84@87
Islands, coarse	54@57	45@46	47@53
Cametá, coarse	56@60	48@52	54@58

NEW YORK RUBBER PRICES FOR JULY (NEW RUBBER).

	1903.	1902.	1901.
Upriver, fine	94@96	70@72	84 @87½
Upriver, coarse	74@76	55@56⅛	61 @63
Islands, fine	89@92	67@69	82 @85
Islands, coarse	56@58	44@46	46½@48⅛
Cametá, coarse	58@60	46@48	50 @55

Rubber Scrap Prices.

NEW YORK quotations—prices paid by consumers for carload lots—in cents per pound; old shoes are a trifle higher; other items not changed [in cents per pound]:

Old Rubber Boots and Shoes—Domestic	6¾ @ 6⅞
Do —Foreign	6 @ 6⅛
Pneumatic Bicycle Tires	4 @ 4⅛
Solid Rubber Wagon and Carriage Tires	7
White Trimmed Rubber	9¼ @ 9½
Heavy Black Rubber	4¼
Air Brake Hose	2⅞ @ 3
Fire and Large Hose	2¼
Garden Hose	1½
Matting	1

Bordeaux.

PRICES in francs per kilogram, August 10:

Sierra Leone sorts:		Madagascar	5.75@9.
Niggers, red I	9.40@9.50	Colombia scraps	7.40@8.25
Niggers, white	9.25@9.30	Colombia slabs	6.40@7.15
Niggers, red II	7.39@7.50	Java	7.75@8.
Twists	7.85@9.10	New Caledonia	8. @8.25
Cassamance	4.10@8.	Mayumba	5.85@6.
Bassam lumps	5.20@5.75	Congo flakes	2.50@3.50

Statistics of Para Rubber (Excluding Caucho).

NEW YORK.

	Fine and Medium.	Coarse.	Total 1903.	Total 1902.	Total 1901.
Stocks, June 30.....*tons*	285	82 =	367	413	879
Arrivals, July	681	261 =	942	518	448
Aggregating.....	966	343 =	1309	931	1327
Deliveries, July	796	289 =	1085	569	603
Stocks, July 31.....	170	54 =	224	362	724

	PARÁ.			ENGLAND.		
	1903.	1902.	1901.	1903.	1902.	1901.
Stocks, June 30...*tons*	115	65	37	1320	1406	1025
Arrivals, July.....	1050	1060	1115	330	369	605
Aggregating.....	1165	1125	1152	1650	1775	1630
Deliveries, July.....	1030	1085	937	675	750	700
Stocks, July 31...	135	40	215	975	1025	930

	1903	1902.	1901.
World's supply, July 31.....*tons*	2088	2958	2536
Pará receipts, July 1 to July 31.....	1050	1060	1115
Pará receipts of Caucho, same dates.....	230	250	145
Afloat from Pará to United States, July 31...	394	440	35
Afloat from Pará to Europe, July 31	360	600	632

London.

EDWARD TILL & CO. [August 1] report stocks:

		1903.	1902.	1901
LONDON	Pará sorts.....*tons*	—	—	—
	Borneo.....	23	130	142
	Assam and Rangoon... ...	11	11	63
	Other sorts....	176	398	522
	Total.....	210	539	727
LIVERPOOL	Pará.....	981	1739	932
	Other sorts.....	590	775	1285
	Total, United Kingdom.....	1781	3053	2944
	Total, July 1.....	2285	3595	3128
	Total, June 1.....	2248	3687	3502
	Total, May 1.....	2539	3788	3597

PRICES PAID IN JULY.

	1903.	1902.	1901
Pará fine, hard.... ..	3/11 @4/ 0½	2/11⅛@2/11¾	3/6 @3/ 8
Do soft.....	3/10 @3/11	2/10¼@2/11⅛	3/7 @3/ 9
Negroheads, scrappy ..	3/ 1 @3/1¼	2/ 3 @2/ 3¾	2/6½@2/ 7½
Do Islands.....2/ 5	@2/ 6		1/10½@2/ 1
Bolivian	*4/1⅛ 3/-	@ 3/ 0¼	3/8 @3/ 9

[* For Old.]

AUGUST 14.—S. Figgis & Co. report an active market, with advancing prices for fine Pará, and very large transactions. Spot hard cure sold up to 4*s.* 2*d.*; very old, 4*s.* 3*d.* forward, to 4*s.* 1⅛*d.* near. Entrefine 3*s.* 11¾*d.* old spot; 3*s.* 11*d.* forward. Soft fine spot, 4*s.*; forward 3*s.* 11½*d.*@3*s.* 11¾*d.* Mollendo, fine 4*s* @4*s.* 0¼*d.* Negroheads, scrappy 3*s.* 1½*d.*@3*s.* 2½*d.* spot; 3*s.* 2*d.* forward; Islands, 2*s.* 5*d.* All medium kinds (Africans and Centrals) are scarce, and bringing very high prices. Stocks greatly reduced. There have been no auctions this week.

CEYLON RUBBER AT AUCTION.

July 10.—Five cases sold; fine clean biscuits 4*s.* 4*d.*; very fine clean scrap, 3*s.* 8*d.*

CIRCULARS to the trade dated August 1 confirm the announcement in the last INDIA RUBBER WORLD of changes in firms of India-rubber merchants. A. B. Bussweiler retires from Alden, Symington & Co., London, and Symington, Bussweiler & Co., Liverpool, the business of which will be continued as heretofore by Adelbert H. Alden and William Symington, under the firm style Alden, Symington & Co., both in London and Liverpool, with correspondents as follows: New York Commercial Co., New York; George A. Alden & Co., Boston; Adelbert H. Alden, Pará and Manáos ——Mr. Bussweiler has associated himself with Arthur Meyer, formerly of Reimers & Meyer, of New York and Boston, in a company styled Meyer & Bussweiler, Limited, for the purpose of carrying on business as general merchants, devoting particular attention to India rubber. Offices: 29, Mincing lane, London, E. C., and Union Bank Chambers, Bixteth street, Liverpool.

Liverpool.

EDMUND SCHLÜTER & CO. report Liverpool stocks:

	June 30.	July 31.			June 30.	July 31.	
Pará—1st hands..	856	556	tons.	Peruvians.....	273	222	tons.
Fine.....	648	461	"	Africans..... ...	371	333	"
Medium.....	103	33	"	Mollendo.....	358	108	pkg.
Negroheads	105	62	"	Mangabeira.....	88	70	"
Pará—2d hands..	472	425	"	Pernambuco.....	18	53	"
Fine..	445	367	"	Maniçoba.....21..	*59	108	"
Medium...	9	19	"	Ceará.....	13	—	"
Negroheads	18	39	"	Assare.....	41	36	"
Total Pará.....1328		981	"				

[*Tons.]

WILLIAM WRIGHT & CO. report [August 1]:

Fine Pará.—The market was strong in the early part of the month, with a good business doing, and prices for old and new Upriver and Islands fine advanced 1*d.* per pound, but during the latter part of the month, owing to the falling off of the demand from America, prices have remained stationary, and we close quiet but firm; it only requires the demand from America to again spring up, when prices will still further advance.

AUGUST 19.—Market quieter for the past week, in the absence of American demand of importance. Resumption of activity expected in case prices in the United S.ates should advance to over Liverpool parity. Sales at auction to-day included: Sierra Leone niggers, prime, 3*s.* 6¼*d.* @ 3*s.* 7*d.* Sierra Leone twists, 3*s.* 3*d.* Gambia seconds, 2*s.* 3*d.* @ 2*s.* 8*d.* Lahou cake, 2*s.* 8½*d.* @ 3*s.*

SOLOMON KRAMRISCH, of the late firm of Kramrisch & Co., India-rubber merchants of Liverpool, was tried on August 7, at the Northern Assizes of England, on an indictment charging him with the unlawful conversion to his own use of funds belonging to two banking houses, in respect of rubber on which the banks had made advances. The jury, without leaving the box, returned a verdict of "guilty," whereupon the prisoner was sentenced to imprisonment, with hard labor, for twelve months. The failure of Kramrisch & Co., some months ago, involved a deficit of about £100,000.

Antwerp.

TO THE EDITOR OF THE INDIA RUBBER WORLD: In keeping with the firmness exhibited by the English market, the sale of July 31 at Antwerp gave very satisfactory results, as regards both prices and quantity sold. Of 497 tons exposed, 462 tons found buyers at an average advance of 1½ per cent. on valuations based on the sale of June 25. The principal lots sold were [prices in francs per kilogram]:

		Sold at.	Valuation.
44 tons	Lopori I.....	9.15	9.15
10 "	Lopori I.....	9.20	9.20
17 "	Lopori II.....	8.17½	7.75
6 "	Lopori II	8.02½	7.50
20 "	Lake Leopold I.....	9.25	8.90
44 "	Lake Leopold II.....	7.50 @7.60	7 50
17 "	Aruwimi.....	8 92½@8.97½	8.50
15 "	Upper Congo ordinary.....	9.32½	9.25

Total sales during August amounted to 475 tons. A small sale of 27 tons—mostly thimbles—will be held on August 21. The next regular monthly sale will be held August 25 when 331 tons will be exposed, including the following, for which brokers. valuations are given:

46 tons	Uelé strips..... 9.10	45 tons	Aruwimi. 8.60
92 "	Uelé strips..... 8.50	26 "	Upper Congo ordinary 8.32½

C. SCHMID & CO.

Antwerp, August 18, 1903.

RUBBER ARRIVALS AT ANTWERP.

AUGUST 5.—By the *Philippeville*, from the Congo:

Bunge & Co.....(Société Générale Africaine) *kilos*	140,000	
Do .....(Société Isangi)	6,000	
Do .....(Société Anversoise)	68,000	
Do .....(Société "La Kotto")	500	
Do .....(Sultanats du Haut Obangi)	5,000	
Société A B I R.....	101,000	
Comptoir Commercial Congolais.....	21,000	
Société Coloniale Anversoise..(Belge du Haut Congo)	1,500	
Do .....(Cie de Lomami)	10,500	
Do	1,800	
Comptoir des Produits Coloniaux.....	2,500	357,800

ANTWERP RUBBER STATISTICS FOR JULY.

DETAILS.	1903.	1902.	1901.	1900.	1899.
Stocks, June 30. *kilos*	487,999	681,670	954,579	726,376	503,997
Arrivals, July	365,406	592,836	470,662	657,767	247,314
Congo sorts	324,060	545,222	458,423	632,149	208,702
Other sorts	41,346	47,614	12,239	25,618	38,612
Aggregating	853,405	1,274,506	1,425,241	1,384,143	751,311
Sales, July	475,878	584,734	384,800	250,441	406,106
Stocks, July 31	377,527	689,772	1,040,441	1,133,702	345,205
Arrivals since Jan. 1	2,979,332	3,237,644	3,552,054	3,669,230	2,096,266
Congo sorts	2,649,192	3,001,476	3,243,557	3,121,175	1,813,80
Other sorts	330,140	236 168	308,497	548,055	282,458
Sales since Jan. 1	3,259,910	2,962,581	3,125,652	2,827,519	2,014,401

A Consul on Rubber Prospects.

THE United States consul at Pará, Mr. K. K. Kenneday, writing July 7, says, in an official report:

"During the past year prices ruled fairly firm at good figures. The exceedingly high prices which prevailed formerly may never be restored, but producers as well as dealers find there is still a very handsome profit for them, once they have accommodated themselves to the new and more healthy conditions. Never before has so much enthusiasm been shown in the trade, and never before have so many men been employed in the business. Thousands of laborers are pouring into the forests of the interior, and thousands more will follow. New rubber fields will be opened and old ones worked with improved methods and larger forces. As an example of this, I might quote the case of one of the largest rubber producers on the Madeira, who recently informed me that he would take out this year four times as much rubber as ever before. Business is steadily improving here. One encouraging sign of the times is the fact that several new houses are preparing to embark in the export trade. It seems safe to predict that if there are no further political troubles on the upper river, the crop of this season will be far in advance of any ever before known."

Hecht, Levis & Kahn's Statistics.

THIS important firm, of Liverpool, London, Paris, and Hamburg, have brought out their annual India-rubber statistical chart for the year ending June 30, 1903, the salient features of which we have compared with their former charts with the results summarized below. Wholly accurate statistics are possible in regard to very few commodities derived from such widely differing sources as India-rubber, and in this case a peculiar difficulty exists on account of the shrinkage which the material continually undergoes. For which reasons the best that can be done is to present approximate figures. The first table compiled from these charts gives the approximate total production and consumption for five years, and the visible supply at the end of each year (in metrical tons):

SEASON.	Production.	Consumption.	Visible Supply.*
1902-03 *tons*	55,603	55,276	5,053
1901-02	53,603	51,170	6,816
1900-01	52,864	51,136	6,941
1899 00	53,348	48,352	7,869
1898-99	52,192	48,783	4,871

[* Including cargoes afloat.]

There is next shown a comparative statement, for four years, of arrivals in the United States and Europe, the deliveries for consumption, and the reported stocks in those countries:

DETAILS.	1899-00.	1900-01.	1901-02.	1902-3.
Stocks, First of year *tons*	3,850	6,576	5,918	5,856
Arrivals, Year	51,077	50,479	51,061	53,159
Aggregating	54,927	57,055	56,979	59,015
Deliveries, Year	48,351	51,137	51,123	55,276
Stocks, End of year	6,576	5,918	5,856	3,739

The next table indicates the total arrivals in the United States and in Europe for each year:

SEASON.	United States.	Europe.	Total.
1898-99 *tons*	21,646	28,501	50,147
1899-1900	20,883	30,194	51,077
1900-01	23,017	27,462	50,479
1901-02	21,555	29,506	51,061
1902-03	23,891	29,268	53,159

Finally is shown an analysis of the stocks in the principal markets and afloat, of Pará rubber and all other sorts, at the end of each year:

STOCKS.	June 30, 1900.	June 30, 1901.	June 30, 1902.	June 30, 1903.
Pará Grades:				
Liverpool *tons*	2,137	1,467	2,448	1,601
Havre	95	70	30	65
New York	601	875	392	383
Pará	195	28	60	129
Afloat	1,099	995	900	1,185
Total	4,127	3,435	3,830	3,363
Medium Grades:				
Liverpool *tons*	1,082	946	585	456
London	646	742	560	224
Antwerp	726	954	681	488
Lisbon	717	544	505	220
Rotterdam	....	....	80	56
New York	571	320	575	246
Total	3,742	3,506	2,986	1,690
TOTAL ALL KINDS	7,869	6,941	6,816	5,053

Java Exports—Official.

[INCLUDING THE ISLAND OF MADURA.]

YEARS	India-Rubber.	Gutta-Percha.
1893 *pounds*	69,496	39,576
1894	99,280	36,720
1895	90,848	39,848
1897	59,840	3,128
1898	67,728	25,704
1899	78,880	146,744
1900	213,112	646,544
1901	39,168	179,112
1902	34,408	52,360

Gutta-Percha.

WEISE & CO. (Rotterdam) report exports from Singapore for the first six months of five years past as follows:

	1899.	1900.	1901.	1902.	1903.
Tons	3348	3219	3126	2490	1704

IMPORTS FROM PARA AT NEW YORK.

[*The Figures Indicate Weights in Pounds.*]

August 3.—By the steamer *Basil*, from Manáos and Pará:

IMPORTERS.	Fine.	Medium.	Coarse.	Caucho.	Total
A. T. Morse & Co.	14,600	600	78,000	7,300=	100,500
Poel & Arnold	14,600	700	41,200	13,200=	69,700
William Wright & Co.	34,400	3,200	21,800	.....=	59,400
United States Rubber Co.	35,100	2,300	9,500	.....=	46,900
L. Hagenaers & Co.	7,400	.....	4,000	.....=	11,400
New York Commercial Co.	3,000	1,000	1,000	3,200=	8,200
Hagemeyer & Brunn	3,200	.....	1.600	. .. =	4,800
Herbst Brothers	1,400	.....	500	300=	2,200
Total	113,700	7,800	157,600	24,000=	303,100

August 13.—By the steamer *Gregory*, from Manáos and Pará:

A. T. Morse & Co.	102,000	14,800	50,800	1,100=	168,700
New York Commercial Co.	76,100	14,200	37,000	.. ..=	127,300
Poel & Arnold	63,900	15,000	24,100	10,500=	113,500
United States Rubber Co.	75,900	6,000	8,000	....=	89,900
William Wright & Co.	13,800	4,000	12,100	1,100=	31,600
L. Hagenaers & Co.	5,000	.....	3,600	.....=	8,600
Thomsen & Co.	3,400	400	3,600	.... =	7,400
Total	340,100	55,000	139,200	12,700=	547,000

August 21.—By the steamer *Grangense*, from Manáos and Pará:

A. T. Morse & Co.	14,000	3,900	136,800	300=	155,000
Poel & Arnold	44,600	22,700	40,900	1,200=	109,400
New York Commercial Co.	42,100	11,700	38,000	600=	92,400
William Wright & Co.	20,500	1,900	21,900	.....=	44,300

L. Hagenaers & Co.	11,200	1,100	2,800	=	15,100
Thomsen & Co.	5,500	400	3,700	=	9,600
Hagemeyer & Brunn.	7,100	1,000	900	=	9,000
Edmund Reeks & Co.	1,300		400	=	1,700
Total	146,300	42,700	245,400	2,100=	436,500

[NOTE.—The steamer *Bernard*, due at New York on September 3, has on board 135 tons of Rubber.]

PARA RUBBER VIA EUROPE.

JULY 27.—By the *Umbria*=Liverpool:

	POUNDS.	
A. T. Morse & Co. (Fine)	34,000	
Otto Meyer (Fine)	30,000	
Poel & Arnold (Fine)	10,000	74,000

JULY 30.—By the *Teutonic*=Liverpool:

George A. Alden & Co. (Fine)	34,000	
George A. Alden & Co. (Coarse)	11,000	
Poel & Arnold (Fine)	34,000	
Otto Meyer (Fine)	23,000	102,000

JULY 31.—By the *Carpathia*=Liverpool:

George A. Alden & Co. (Fine)		18,000

AUGUST 4.—By the *Zeeland*=Antwerp:

A. T. Morse & Co. (Fine)		16,000

AUGUST 4.—By the *Seguranca*=Mollendo:

Chicago Bolivian Rubber Co. (Fine)	6,000	
Chicago Bolivian Rubber Co. (Coarse)	2,000	8,000

AUGUST 8.—By the *Philadelphia*=London:

Poel & Arnold (Coarse)		22,500

AUGUST 10.—By the *Finland*=Antwerp:

A. T. Morse & Co. (Fine)		18,000

AUGUST 15.—By the *Campania*=Liverpool:

Poel & Arnold (Fine)		100,000

OTHER ARRIVALS AT NEW YORK

CENTRALS.

JULY 25.—By the *Havana*=Mexico:

	POUNDS.	
Thebaud Bros.	2,000	
Samuels & Cummings	1,500	
L. N. Chemedlin & Co.	500	
H. Marquardt & Co.	400	
Louis Levy	200	4,600

JULY 27.—By the *Tennyson*=Bahia:

J. H. Rossbach & Bros.	59,000	
F. B. Ross & Co.	5,000	64,000

JULY 27.—By the *Comus*=New Orleans:

A. T. Morse & Co.	2,000	
Manhattan Rubber Mfg. Co.	1,500	
G. Amsinck & Co.	600	4,100

JULY 28.—By the *Alliança*=Colon:

G. Amsinck & Co.	3,800	
Isaac Brandon & Bros.	2,100	
Andreas & Co.	1,500	
E. B. Strout	800	
Lawrence Johnson & Co.	700	
Eggers & Heinlein	500	9,000

JULY 30.—By the *Caribi II*=Truxillo:

Eggers & Heinlein	11,000	
J. W. Wilson & Co.	2,500	
G. Amsinck & Co.	1,500	
H. W. Peabody & Co.	1,500	16,500

AUG. 3.—By the *Tintoretto*=Bahia:

J. H. Rossbach & Bros.		22,500

AUG. 4.—By the *Seguranca*=Colon:

A. Santos & Co.	4,300	
Hirzel, Feltman & Co.	3,200	
American Trading Co	2,600	
Meyer Hecht	2,800	
Piza, Nephews & Co.	2,300	
H. Marquardt & Co.	2,000	
G. Amsinck & Co	1,900	
Lawrence Johnson & Co.	1,400	
Roldan & Van Sickle	1,600	
Isaac Brandon & Bros.	1,100	
A. N. Rotholz	1,000	
Fidanque Bros. & Co	1,000	
Ascensio & Cassio	800	
Dumarest & Co.	800	
W. R. Grace & Co	600	
W. Loaiza & Co	400	
Jimenez & Escobar	400	
Louis A. Levy	300	
E. N. Tibbals & Co.	200	
R. G. Barthold	200	
Barbling & DeLeon	100	
For Antwerp	3,100	31,500

AUG. 7.—By the *Germanic*=Liverpool:

Poel & Arnold		2,300

AUG. 5.—By the *Adirondack*=Savanilla:

G. Amsinck & Co.	2,000	
Kunhardt & Co.	2,000	

CENTRALS—Continued.

Lawrence Johnson & Co.	700	
Roldan & Van Sickle	500	5,200

AUG. 10.—By the *Chalmette*=New Orleans:

A. T. Morse & Co.	5,000	
Manhattan Rubber Mfg. Co.	3,500	
G. Amsinck & Co.	1,500	
Eggers & Heinlein	500	10,500

AUG. 10.—By the *Vigilancia*=Mexico:

Harburger & Stack	2,000	
E. Steiger & Co.	1,500	
American Trading Co.	200	
H. Marquardt & Co.	600	
For Hamburg	5,000	9,300

AUG. 11.—By the *Valencia*=Greytown:

Livingstone & Co.	10,000	
G. Amsinck & Co.	5,300	
Andreas & Co.	1,500	
E. B. Strout	1,500	
Lawrence Johnson & Co	500	
Kunhardt & Co.	500	19,300

AUG. 11.—By the *Saratoga*=Colon:

Hirzel, Feltman & Co.	15,000	
G. Amsinck & Co.	12,200	
L. N. Chemedlin & Co.	4,900	
American Trading Co.	3,800	
Lawrence Johnson & Co.	2,700	
Meyer Hecht	2,000	
Livingstone & Co.	1,600	
E. B. Strout	1,300	
Silva, Bussenius & Co.	900	
W. Loaiza & Co.	500	
Eggers & Heinlein	300	45,200

AUG. 13.—By the *Sailor Prince*=Bahia:

J. H. Rossbach & Bros.		11,000

AUG. 13.—By the *El Siglo*=New Orleans:

Manhattan Rubber Mfg. Co	1,500	
For Europe	3,500	5,000

AUG. 18.—By the *Altai*=Cartagena:

Joaquin Ferro	3,500	
American Trading Co.	2,500	
Isaac Kubie & Co.	1,500	
Kunhardt & Co.	1,000	
Lawrence Johnson & Co.	1,200	
J. H. Recknagel & Co.	500	10,200

AUG. 18.—By the *Yucatan*=Colon:

A. M. Capen Sons	4,400	
L. N. Chemedlin & Co.	3,800	
G. Amsinck & Co	3,600	
Isaac Brandon & Bros.	3,300	
American Trading Co	2,700	
Livingston & Co	2,300	
Roldan & Van Sickle	2,000	
H. Marquardt & Co.	1,800	
Meyer Hecht	1,700	
Lawrence Johnson & Co.	1,300	
Eggers & Heinlein	1,200	
Fidanque Bros. & Co.	1,100	
E. B. Strout	1,100	
Mecke & Co.	900	
Hirzel, Feltman & Co.	900	
E. Steiger & Co.	700	
E. N. Tibbals & Co.	600	
Kunhardt & Co.	600	
A. Santos & Co.	500	34,500

AUG. 20.—By the *El Mar*=New Orleans:

Manhattan Rubber Mfg. Co.	1,500	
Eggers & Heinlein	1,500	3,000

AUG. 20.—By the *Byron*=Bahia:

J. H. Rossbach & Bros.	47,500	
G. Amsinck & Co.	1,500	49,000

AUG. 24.—By the *Orizaba*=Mexico:

H. Marquardt & Co.	1,500	
Harburger & Stack	1,200	
L. N. Chemedlin & Co.	500	
Graham, Hinkley & Co.	300	3,500

AFRICANS.

JULY 24.—By the *Pretoria*=Hamburg:

	POUNDS.	
Rubber Trading Co.	19,600	
A. T. Morse & Co.	23,000	
Poel & Arnold	17,000	
Joseph Cantor	10,000	
George A. Alden & Co.	9,000	78,000

JULY 24.—By the *Peninsular*=Lisbon:

United States Rubber Co.	78,000	
Poel & Arnold	45,000	123,000

AFRICANS—Continued.

JULY 27.—By the *Umbria*=Liverpool:

Poel & Arnold	7,000	
Rubber Trading Co.	5,000	12,000

JULY 30.—By the *Teutonic*=Liverpool:

George A. Alden & Co.	22,500	
Poel & Arnold	5,500	28,000

JULY 30.—By the *Graf Waldersee*=Hamburg:

Otto Meyer		9,000

AUG. 1.—By the *Lucania*=Liverpool:

Poel & Arnold	14,000	
George A. Alden & Co.	5,500	
A. T. Morse & Co.	3,000	22,500

AUG. 7.—By the *Germanic*=Liverpool:

Poel & Arnold	8,000	
A. T. Morse & Co.	2,500	10,500

AUG. 8.—By the *Prins Sigismund*=Hamburg:

Rubber Trading Co.	21,000	
Otto Meyer	15,000	
Joseph Cantor	4,500	
George A. Alden & Co.	2,000	
H. A. Gould Co.	4,000	46,500

AUG. 10.—By the *Cedric*=Liverpool:

George A. Alden & Co.	68,000	
A. T. Morse & Co.	23,000	
Poel & Arnold	2,500	93,500

AUG. 10.—By the *Finland*=Antwerp:

A. T. Morse & Co.		10,000

AUG. 12.—By the *Pennsylvania*=Hamburg:

Rubber Trading Co.	22,500	
Poel & Arnold	19,000	41,500

AUG. 13.—By the *Majestic*=Liverpool:

United States Rubber Co.		15,000

AUG. 18.—By the *Vaderland*=Antwerp:

A. T. Morse & Co.	120,000	
William Wright & Co.	38,000	
Rubber Trading Co	18,000	
Poel & Arnold	13,000	
Joseph Cantor	9,000	198,000

AUG. 19.—By the *Oceanic*=Liverpool:

Poel & Arnold		11,000

AUG. 20.—By the *Patricia*=Hamburg:

Otto Meyer	24,000	
George A. Alden & Co.	13,000	
Rubber Trading Co.	6,000	
Joseph Cantor	6,500	49,500

EAST INDIAN.

AUG. 3.—By the *Sagami*=Singapore:

	POUNDS.	
Robert Branss & Co.		7,000

AUG. 3.—By the *Moltke*=Hamburg:

Poel & Arnold		13,000

AUG. 3.—By the *New York*=London:

Poel & Arnold		11,000

AUG. 5.—By the *Marquette*=London:

Robert Branss & Co.		18,000

AUG. 8.—By the *Philadelphia*=London:

Poel & Arnold		26,000

AUG. 12.—By the *Nubia*=Singapore:

Winter & Smillie	17,000	
D. P. Cruikshank	11,500	28,500

AUG. 22.—By the *New York*=London:

Poel & Arnold		5,500

PONTIANAK.

AUG. 3.—By the *Sagami*=Singapore:

Robert Branss & Co.	300,000	
George A. Alden & Co.	200,000	500,000

AUG. 12.—By the *Umbria*=Singapore:

For Boston		45,000

GUTTA-PERCHA AND BALATA.

JULY 30.—By the *Teutonic*=Liverpool:

	POUNDS.	
Earle Brothers		2,000

JULY 30.—By the *Graf Waldersee*=Hamburg:

To order		6,500

AUG. 12.—By the *Pennsylvania*=Hamburg:

To order		6,500

AUG. 18.—By the *Hudson*=Singapore:

W. R. Russell & Co.	27,000	
To order	23,000	50,000

BALATA.

JULY 27.—By the *Anchoria*=Glasgow:

Earle Brothers		4,500

JULY 27.—By the *Minneapolis*=London:

Earle Brothers	3,000	
H. A. Gould Co.	3,000	6,000

AUG. 1.—By the *Maraval*=Trinidad:

Eggers & Heinlein	1,000	
George A. Alden & Co.	2,500	3,500

CUSTOM HOUSE STATISTICS.

PORT OF NEW YORK—JULY.

Imports:	POUNDS.	VALUE.
India-rubber	4,030,486	$2 679,268
Gutta-percha	60 464	29,516
Gutta-jelutong (Pontianak)	580,721	14,847
Total	4 671,670	$4,723.631
Exports:		
India-rubber	36,900	$ 23,207
Reclaimed rubber	141,490	18,704
Rubber Scrap Imported	1,743,341	$104,470

BOSTON ARRIVALS.

JULY 6.—By the *Anglian*=London: POUNDS.

George A. Alden & Co.—East Indian	8,379

JULY 7.—By the *New England*=Liverpool:

George A. Alden & Co.—African	14 571

JULY 7.—By the *Kingstonian*=Antwerp:

George A. Alden & Co.—African	9,451

JULY 13.—By the *Michigan*=Liverpool:

Peel & Arnold—African	4,637

JULY 18.—By the *Ultonia*=Liverpool:

George A. Alden & Co.—African	1,590

JULY 20.—By the *Ultonia*=Liverpool:

Peel & Arnold—African	31,202

JULY 20.—By the *Cambrian*=London:

George A. Alden & Co.—East Indian	13,134

JULY 24.—By the *Saxonia*=Liverpool:

George A. Alden & Co.—African	90,60

JULY 28.—By the *Pinemore*=Antwerp:

George A. Alden & Co.—African	67,294
Total	240,863

[Value, $176,749.]

JULY EXPORTS OF INDIA-RUBBER FROM PARA (IN KILOGRAMS).

EXPORTERS.	UNITED STATES.					EUROPE.					TOTAL
	FINE.	MEDIUM.	COARSE.	CAUCHO.	TOTAL.	FINE.	MEDIUM.	COARSE.	CAUCHO.	TOTAL.	
Frank da Costa & Co.	60,820	5,154	91,148	300	157,422	30,794	3,204	27,808	—	61,806	219,228
Cmok, Schrader & Co.	4,420	340	34,640	—	39,400	82,110	8,670	49,440	300	140,520	179,920
Adelbert H. Alden	17,960	5,040	17,830	464	41,294	38,210	8,290	20,950	6,622	74,072	115,366
R. Suarez & Co.	—	—	—	—	—	53,091	15,042	3,303	748	72,184	72,184
Denis Crouan & Co.	25,931	4,870	21,191	552	52,544	818	162	—	—	980	53,524
Neale & Staats	3,864	336	26,860	—	31,060	7,728	504	632	—	8,864	39,924
Kanthack & Co.	—	—	—	—	—	1,562	683	8,937	22,286	33,468	33,468
Pires, Teixeira & Co.	11,013	464	6,152	—	17,629	6,172	—	2,359	—	8,531	26,160
Sundry small shippers	4,452	352	3,186	—	7,990	6,684	818	8,049	—	15,551	23,541
Direct from Iquitos	—	—	—	—	—	6,632	2,323	2,079	112,628	123,662	123,662
Direct from Manáos	168,544	27,534	27,976	28,777	252,831	42,038	5,104	11,658	69,841	128,641	381,472
Total for July	297,004	44,090	228,983	30,093	600,170	275,839	44,860	135,215	212,425	668,279	1,268,449
Total for January-June	4,073,517	1,038,149	2,726,135	1,036,078	8,873,879	4,803,518	589,529	1,328,363	2,282,155	9,003,565	17,877,444
TOTAL SINCE JANUARY 1.	4,370,521	1,082,239	2,955,118	1,066,171	9,474 049	5,079.357	634,329	1,463,578	2,494.580	9,671,844	19,145,893

OFFICIAL STATISTICS OF CRUDE INDIA-RUBBER (IN POUNDS).

UNITED STATES.

MONTHS.	IMPORTS.	EXPORTS.	NET IMPORTS.
June, 1903	3,352,998	212,908	3,140,090
January-May	25,215,766	1,355,007	23,860,759
Six months, 1903	28,568,764	1,567,915	27,000,849
Six months, 1902	27,142,990	1,852,299	25,290,691
Six months, 1901	31 788,882	1,677,533	30,111,349

GREAT BRITAIN.

MONTHS.	IMPORTS.	EXPORTS.	NET IMPORTS.
June, 1903	4,441,808	2,061,360	2,380,448
January-May	24,886,400	17,354,512	7,531,888
Six months, 1903	29,328,208	19,415,872	9,912,336
Six months, 1902	26,287,968	15,150,688	11,137,280
Six months, 1901	26,976,656	15,482,880	11,493,776

GERMANY.

MONTHS.	IMPORTS.	EXPORTS.	NET IMPORTS.
June, 1903	2,298,120	596,200	1,701,920
January-May	16,059,120	6,089,820	9,969,300
Six months, 1903	18,357,240	6,686,020	11,671,220
Six months, 1902	16,475,140	6,280,560	10,194,580
Six months, 1901	14,039,960	3,951,420	10,088,540

ITALY.

MONTHS.	IMPORTS.	EXPORTS.	NET IMPORTS.
June, 1903	87,340	67,980	19,360
January-May	812,020	26,400	785,620
Six months, 1903	899,360	94,380	804,980
Six months, 1902	767,800	75,240	692,560
Six months, 1901	794,640	92,840	701,800

FRANCE.*

MONTHS.	IMPORTS.	EXPORTS.	NET IMPORTS.
June, 1903	1,522,400	730,400	792,000
January-May	6,804,160	3,879.480	2,924,680
Six months, 1903	8,326,560	4,609,880	3,716,680
Six months, 1902	8,955,320	4,361,280	4,594,040
Six months, 1901	9,056,080	5,530,800	3,525,280

AUSTRIA-HUNGARY.

MONTHS.	IMPORTS.	EXPORTS.	NET IMPORTS.
June, 1903	209,880	—	209,880
January-May	1,294,700	12,320	1,282,380
Six months, 1903	1,504,580	12,320	1,492,260
Six months, 1902	1,408,880	6,820	1,402,060
Six months, 1901	1,132,340	19,360	1,112,980

BELGIUM †

MONTHS.	IMPORTS.	EXPORTS.	NET IMPORTS.
June, 1903	1,699,258	912,806	786,452
January-May	6,557,089	4,902,936	1,654,153
Six months, 1903	8,256,347	5,815,742	2,440,605
Six months, 1902	7,683,867	5,551,060	2,132,807
Six months, 1901	7,644,743	6,337,729	1,307,014

NOTE.—German statistics include Gutta-percha, Balata, old rubber, and substitutes. French, Austrian, and Italian figures include Gutta-percha. The exports from the United States embrace the supplies for Canadian consumption.

*General Commerce. †Special Commerce.

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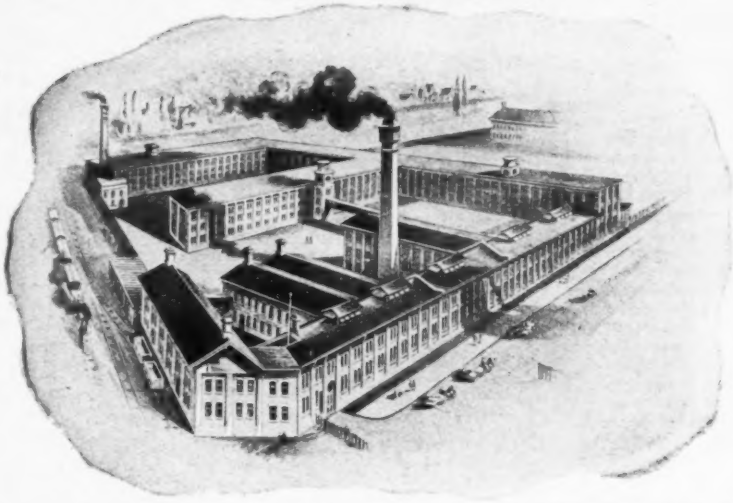

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